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A special place in the saltings? Survey and excavation of an Iron Age estuarine islet at An Dunan, Lewis, Western Isles

Mike J Church*, Claire Nesbitt* and Simon M D Gilmour†

ABSTRACT

This is the third of a series of four papers that present the excavations undertaken on the Uig Peninsula, Isle of Lewis, as part of the Uig Landscape Project. We present the archaeological evidence from An Dunan, a causewayed tidal islet in the salt marsh of Uig sands, a liminal and potentially ritual site dating to the Iron Age and medieval period. The first main Middle Iron Age phase was characterised by activities centred on an ash mound, demarcated by four large orthostats, within an essentially rectilinear structure containing internal cellular divisions. The activities within the structure have been interpreted as non-domestic in nature. The second main phase involved the medieval re-use of aspects of the Iron Age building to create a small boat-shaped structure, with very little associated material culture. The structural, artefactual and environmental evidence from the site is presented, before being interpreted within the wider research context of the archaeology of the Western Isles and Atlantic Scotland.

INTRODUCTION

The site at An Dunan was excavated as part of the Uig Landscape Project on the Uig Peninsula in Lewis, Western Isles of Scotland. An Dunan was one of four sites located during an initial landscape survey (Burgess & Church 1996) that were selected for excavation by a team from the University of Edinburgh in the mid to late 1990s. This is the third site published as part of the project; see Nesbitt et al (2011) for more details on the survey and wider project aims.

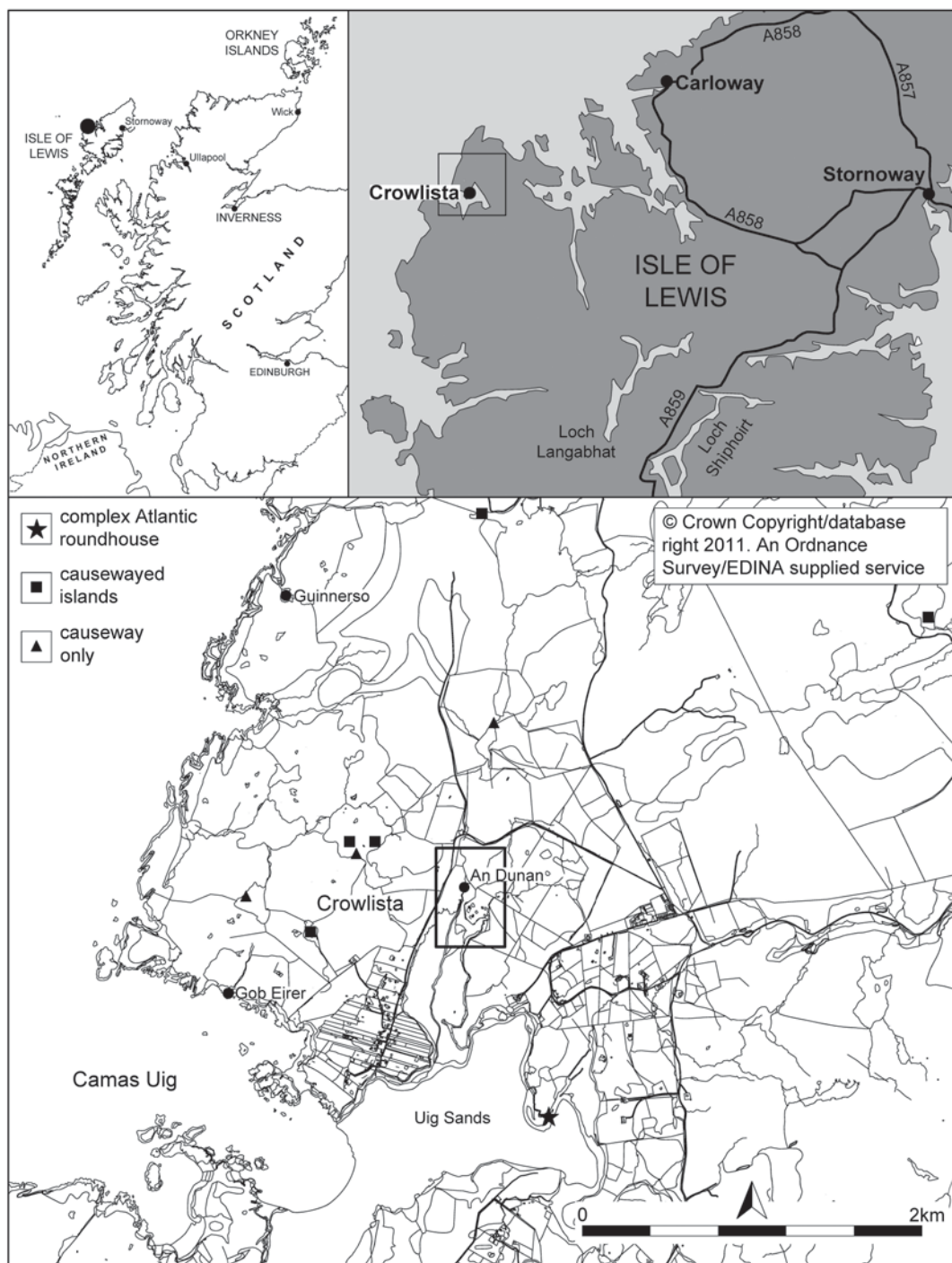
The sites all stand out from the usual North Atlantic archaeological site types, being neither monumental nor domestic. Their unique nature and the threat of coastal erosion singled them out as ideal targets for excavation. The Uig Landscape Project considered four sites in all:

1. Bereiro, a post-medieval blackhouse (Nesbitt et al 2013).
2. Gob Eirer, a Late Bronze Age/Early Iron Age promontory enclosure (Nesbitt et al 2011).
3. An Dunan, an Iron Age tidal islet, which is the subject of this paper.
4. Guinnerso, a complex multi-phase transhumance landscape with evidence of use from the Late Bronze Age through to the post-medieval period.

The examination of sites of different periods and functions in the same area allows an investigation of aspects of continuity and change in the use and understanding of landscape in the Hebrides during the later prehistoric and early modern periods, enabling thematic resonance between sites to be explored.

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ILLUS 1 Location map of Uig Peninsula

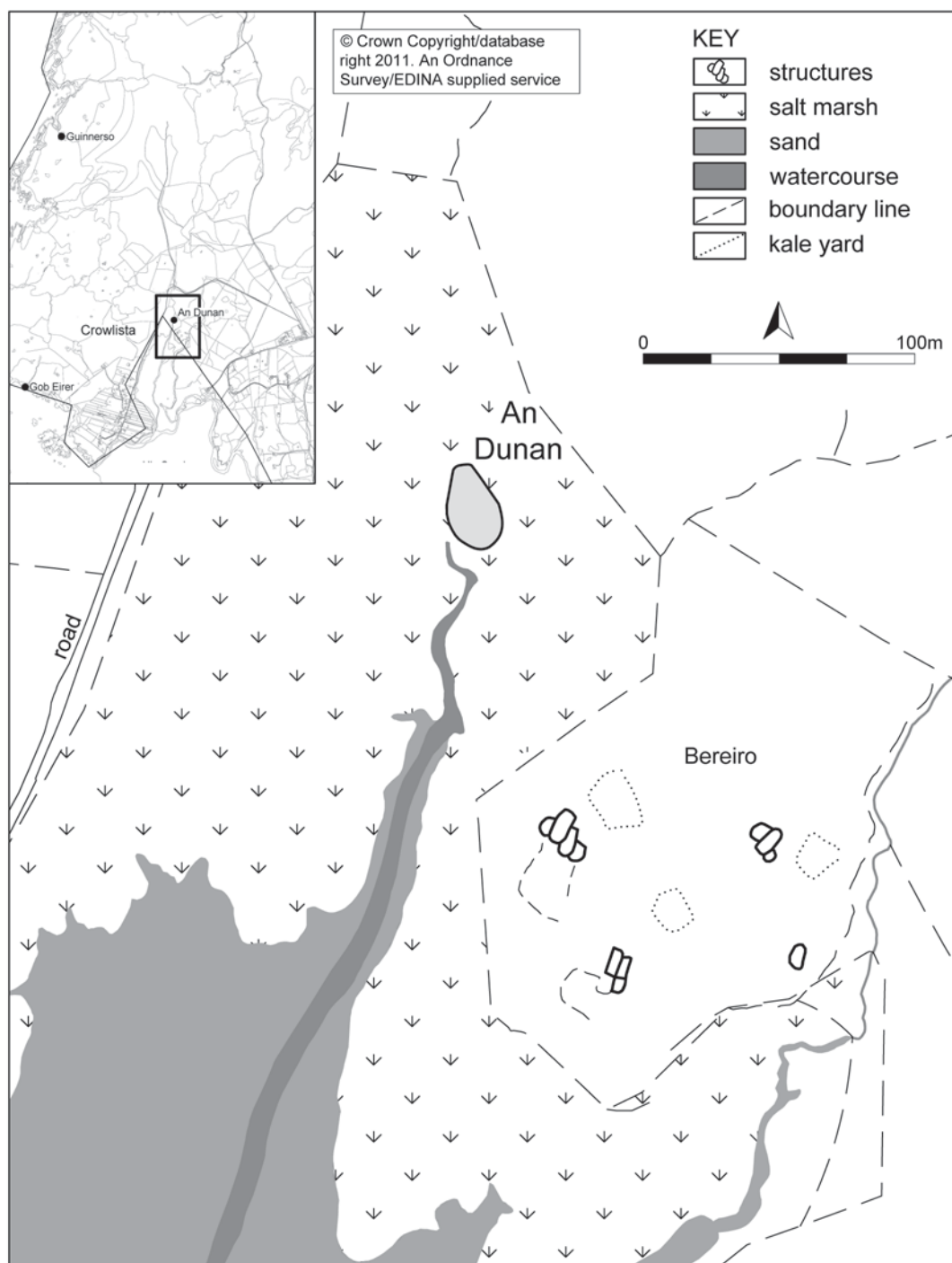
TABLE 1
Recorded island sites on the Uig Peninsula

<i>Grid Ref</i>	<i>Name</i>	<i>NMRS number</i>	<i>Nature of Site</i>	<i>Date</i>	<i>Excavated</i>
NB 0503 3325	Dun Borranish	NB03SE 1	Causewayed, galleried Dun	Undated	No
NB 0387 3487	Loch Baravat	NB03SW 4	Crannog/Dun	Undated	No
NB 0401 3487	Dun Bharabhat	NB03SW 3	Dun	Later Prehistoric?	No
NB 0464 3680	Loch Mheacleit	NB03NW 13	Causewayed Crannog	Undated	No
NB 0365 3437	Loch Cleidir	NB03SW 56	Causewayed settlement – Crannog?	Undated	No
NB 0471 3557	Steishal	NB03NW 66	Causeway/Dam	Undated	No
NB 0325 3455	Loch Buaille nan Caorach	NB03SW 249	Causeway/Wall	Undated	No
NB 0727 3619	Loch Mor	NB03NE 123	Causeway Islet	Undated	No
NB 0453 3460	An Dunan	NB03SW 20	Causewayed Islet	Iron Age	Yes

The site of An Dunan (NGR NB0453 3460) is a utilized natural islet near Crowlista, Uig, at the north end of Tràigh nan Srùban, a tidal salt marsh extending north from Uig Sands, and cut by several natural watercourses (illus 1 and 2). An Dunan consists of a raised bedrock knoll in this marsh area. The site is accessible via the salt marsh in normal tidal conditions but also has a rough stone causeway crossing the marsh north-east to south-west from a natural promontory, which provides access during very high tides when the islet is surrounded by water. The raised bedrock island is teardrop-shaped with a north/south orientation. The western side of the islet has a steep incline, while on the southern slope there is a slight terrace. Five discrete phases of structural activity were identified within the excavated area, falling into two clear periods of use. The initial period saw construction of a rectilinear building in the Early/Middle Iron Age between the 4th century cal BC and the 1st century cal AD; the second main phase consisted of a remodelling of the initial building in the medieval period, between the 11th–15th centuries cal AD.

Islet sites are not uncommon in the Western Isles; the 1995 survey of the Uig area recorded nine sites (Table 1) with signs of archaeology evident on visual inspection of the ground surface (Burgess & Church 1996). The islets were located almost exclusively in inland lochs or sheltered sea lochs. This pattern is reflected across all examples of this kind of monument in the Hebrides, with the majority being in inland lochs. Six of the nine sites have clear structural evidence indicating substantial anthropogenic activity.

The nine sites on the Uig peninsula are some of around 166 similar island and/or causewayed sites on the Western Isles listed in the Western Isles SMR, the majority of which appear to be duns, crannogs or brochs.



ILLUS 2 Detailed location map of An Dunan

These sites share some common themes: they all occupy liminal locations that bridge land and water; they are all inaccessible without a boat, causeway or specific tidal conditions, and most appear to have their origins in later prehistory, most commonly the Iron Age, although there are well-known Neolithic examples, such as Eilean Domhnuill (Armit 1996; Mills et al 2004). Where they seem to differ is in their apparent function. The uses for these islets range from domestic dwellings to burial mounds – and at some sites there is little evidence from the surface remains to suggest what activities were taking place there (Morrison 1985).

The seemingly unique nature of An Dunan among these sites invited further exploration. As well as a causeway, the islet site had clear evidence for a structure that was not consistent with the form of a broch or dun; neither did it resemble a domestic site or burial mound. The island itself was obviously natural and would not be conventionally classed as a crannog. The site was excavated to reveal the extant structure and to attempt to understand more about sites of this type in the region. It was also hoped that excavation would enable a contextualisation of the site within a broader understanding of the archaeology and landscape of the region.

DETAILED RESEARCH AIMS OF SITE SURVEY AND EXCAVATION

A series of detailed research aims was formulated prior to the excavations in 1996, including:

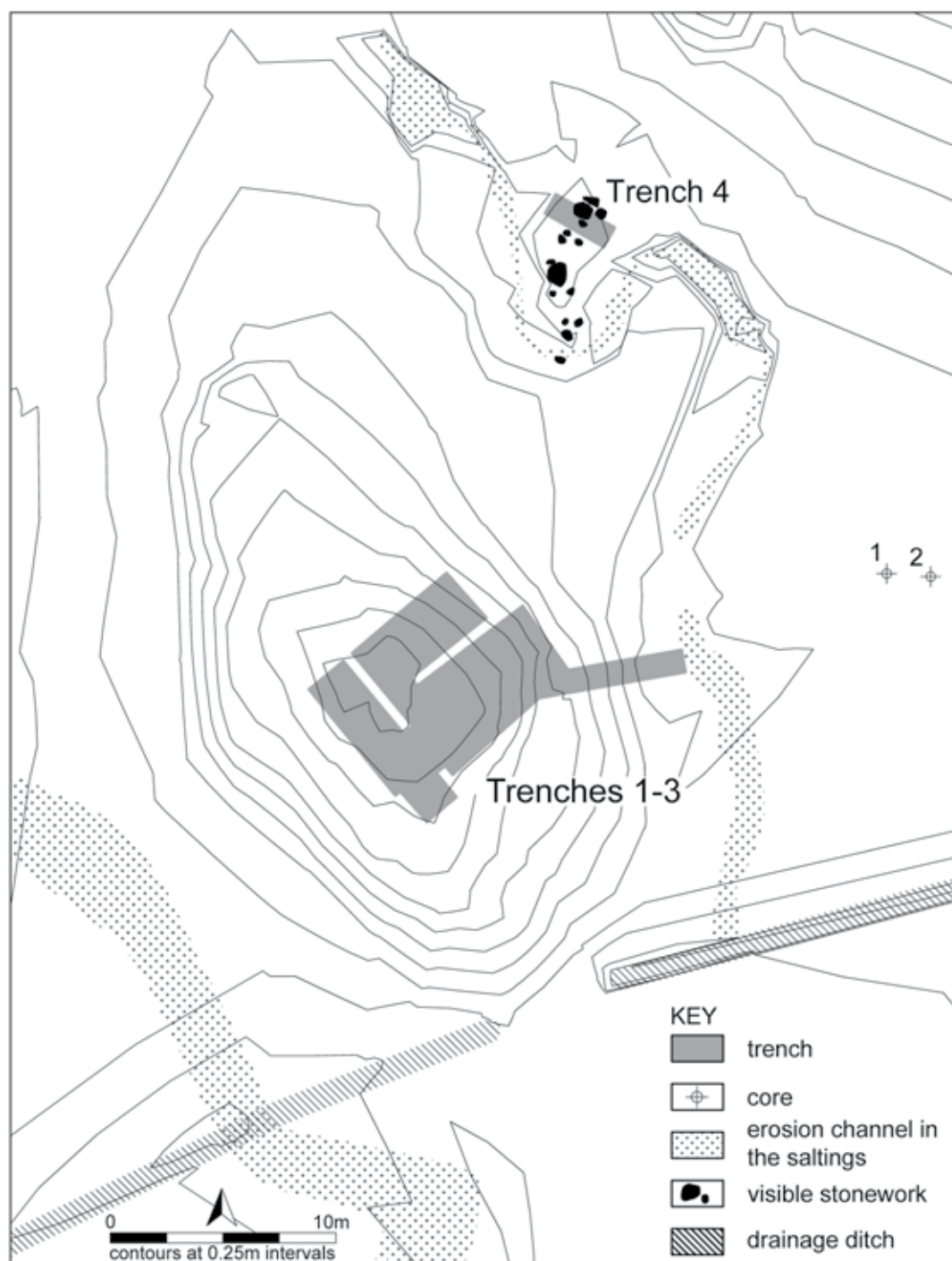
1. To date the structural and stratigraphic phases of the site using multiple radiocarbon dates.
2. To interpret activities undertaken in the different phases at the site, through the structural remains and associated material culture.
3. To reconstruct past human-environment interaction, as described by the archaeological record.
4. To assess the significance of the site within the landscape context of Atlantic

Scotland and the wider Atlantic seaboard, as defined by Henderson (2007).

METHODOLOGY

FIELD METHODS

The site was surveyed using an Electronic Distance Measurer running Penmap software. A detailed topographical survey was undertaken to produce a digital terrain model for the site and to show the site in its landscape context. Four trenches were opened on An Dunan; trenches 1 and 2 were placed to incorporate a cross section of the curvilinear structure on the site oriented NNW/SSE (illus 3). The western trench (trench 1) measured 2m×6m and the eastern trench (trench 2) measured 2.5m×6m. The two were separated by a 0.5m baulk. A third trench (trench 3), measuring 5m×1m, was opened on the south-east side of the islet, stretching down toward the salt marsh. It was hoped that trench 3 would reveal the structure of the islet in this area and link the marsh stratigraphy to the archaeology of the main trenches. Trench 3 also took in the area of a possible pathway, which was visible on the south-east side of the islet, and two visible stretches of bounding wall. Trench 1 was extended to the east and south in an attempt to find the extent of the earliest structure, ultimately amalgamating trenches 1, 2 and 3. A fourth trench (trench 4), measuring 1m×3m, was opened across the causeway to reveal its nature. A 'total' sampling strategy was employed across the site (Jones 1991); this entailed removing a standard bulk sample of 28 litres from every sediment context. Greater volumes or multiple samples were taken from some contexts depending on their potential interest. A routine sample of 0.25 litres was also removed to be used for soil tests in the laboratory. Two column samples of Kubiëna tins were taken through sections of the ash mound and interior fills of the Iron Age and medieval structures (see Excavation Results below for the description



ILLUS 3 Pre-excavation survey and plan, showing location of trenches

of the structures and stratigraphy), to assess site formation processes. Specialist reports and finds processing were undertaken by National Museums Scotland; the reports have been edited from the original versions for inclusion here. The full reports, which outline methodologies and quantify data in detail, are available in the site archive.

POST-EXCAVATION AND LABORATORY METHODS

Bulk sample processing

Bulk samples were processed using a flotation tank (Kenward et al 1980), with the residue held by a 1.0mm net and the flot caught by 1.0mm and 0.3mm sieves respectively. All the flots and residues were dried and sorted using a low-powered stereo/binocular microscope at $\times 15$ – $\times 80$ magnification. All macrofossil identifications were checked against botanical literature and modern reference material from collections in the Department of Archaeology, University of Edinburgh. Charcoal identifications were carried out on transverse cross-sections on fragments measuring >4 mm. Anatomical keys listed in Schweingruber (1990), in-house reference charcoal and slide-mounted micro-sections were used to aid identification. Asymmetry and morphological characteristics were also recorded. Nomenclature follows Stace (2010), with ecological information taken from Clapham et al (1987), Stace (2010) and Pankhurst & Mullin (1994). Full details of the archaeobotanical methodology for the Uig Landscape Project can be found in Nesbitt et al (2011: 38–40). Ling heather counts for the assemblage were made up to 50 fragments to ensure a sufficient sample size was analysed.

Zoo-archaeological analysis

The residues from the samples were also sorted for burnt animal remains and the few identifiable bone fragments were identified using comparative collections held in the laboratories

of the Department of Archaeology, Durham University.

ZooMS

Nienke Van Doorn

Much of the bone recovered from the site was not readily identifiable as animal, due to the calcined and fragmented state of the assemblage, and it was suspected that there may have been evidence for human cremation. The following process was undertaken to attempt to determine the species from fragments of calcined bone within the ash mound. The samples were examined in two separate stages. The first stage was the common warm buffer method, in which a small (5–10mm) fragment was taken, incubated for 2×1 h @ 65°C in ammonium bicarbonate buffer. The second hour extract was then trypsinated overnight @ 37°C and purified over a C18 SPE filter and eluted in a final volume of $10\mu\text{l}$ 50% acetonitrile. Of this final elute, $1\mu\text{l}$ was spotted with $1\mu\text{l}$ of matrix and used in MALDI-TOF-MS to analyse the peptides for each sample in triplicate. No significant peaks were observed in single MS spectra.

In a second stage, a larger amount of each sample was taken (ranging from 250–800mg), washed in mQ twice, then demineralised over 48h @ 4°C in 1M HCl. Samples were then washed in mQ two more times and gelatinised in ammonium bicarbonate buffer for 3.5 hours @ 80°C . This gelatinised fraction was ultrafiltrated to capture any high molecular weight material (cut-off 30,000), trypsinated overnight and a similar procedure was followed as mentioned in the first stage for purification.

Sample 227 was the only sample that showed any peaks in single MS spectra. The observed peaks were not similar to common mammalian collagen markers that are frequently observed and generally easily ionised. Peptide quality was not sufficient to perform an effective MS/MS and analyse the peptide sequence, making it impossible to draw any firm conclusions about the nature of the bone sample. It was therefore

concluded from this pilot study that ZooMS could not be used to identify the bone fragments, due to the lack of collagen within the calcined bone.

Sedimentary analysis

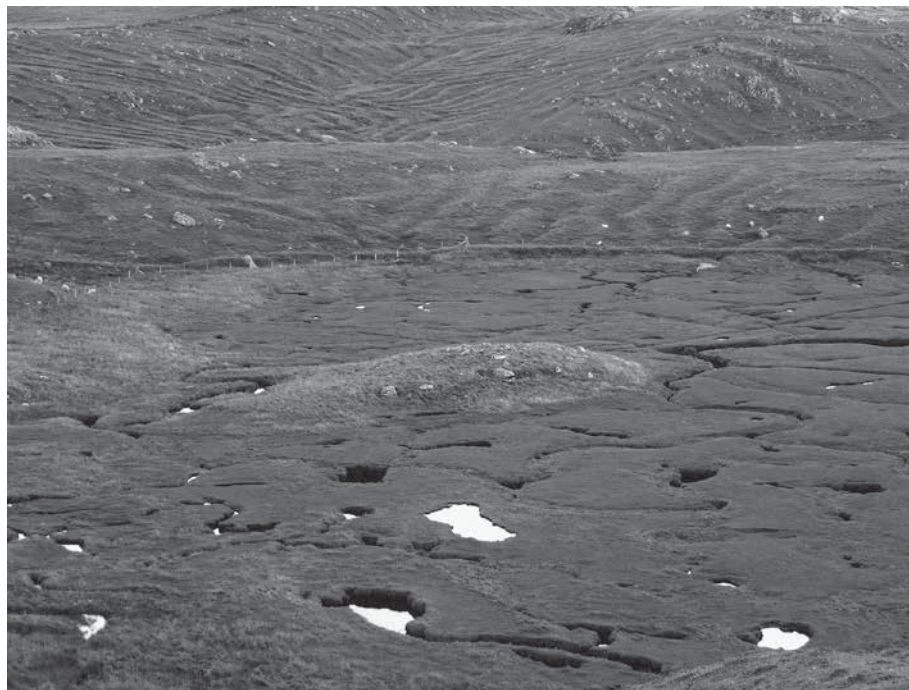
Each sub-sample was subjected to the following analyses; basic soil description (texture and colour following Hodgson 1976 and Munsell Colour Chart 1994), organic content (following Hodgson 1976), pH (following Hodgson 1976) and mineral magnetic analysis (following Dearing 1994). The methods employed for each test are described in more detail in Nesbitt et al (2011: 40–41).

Soil Micromorphology

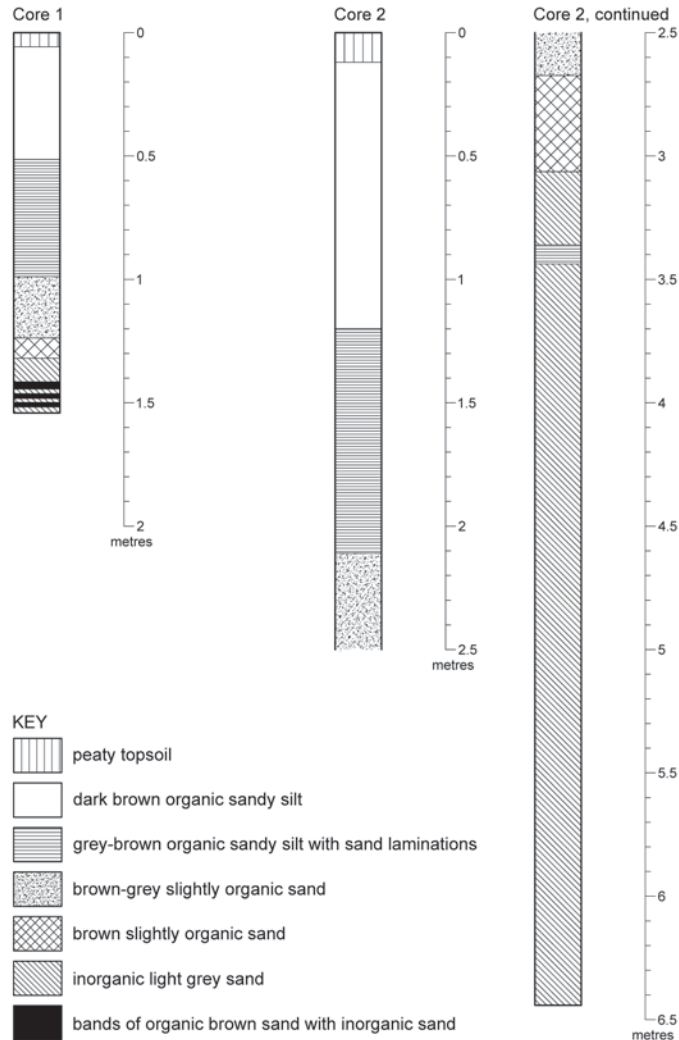
The Kubiëna samples were prepared in the Thin Section & Micromorphology laboratories, Biological and Environmental Sciences,

University of Stirling. All water was removed from the samples by acetone exchange. The samples were then impregnated using polyester crystic resin type 17449 and the catalyst Q17447 (methyl ketone peroxide, 50% solution in phthalate). The mixture was thinned with acetone and a standard composition of 180ml resin, 1.8ml catalyst and 25ml acetone used for each Kubiëna tin. An accelerator was used and the samples were impregnated under vacuum to ensure complete outgassing of the soil. The impregnated soils were cured, culminating with a period in a 40°C oven. Resin impregnated soils were sliced, bonded to a glass slide and precision lapped to 30µm thickness, and cover-slipped to complete the manufacture of the thin section.

Following Bullock et al (1985) and Stoops (2003), soil properties were recorded semi-quantitatively on a standard table. The thin sections were analysed using an Olympus



ILLUS 4 An Dunan from north-west, taken August 2010 (Photo: Mike Church)



ILLUS 5 Coring profiles from saltings adjacent to site (see illus 3 for location)

BX-50 petrological microscope at a range of magnifications ($\times 10$ – $\times 400$) and with several different light sources. Plane polarized light (PPL), crossed polarized light (XPL) and oblique incident light (OIL) each allow identification of specific microscopic features, such as mineral and organic components, pedofeatures and fuel residues. Interpretation of the observed features rests on the accumulated evidence of a number of workers, notably Courty et al (1989), FitzPatrick

(1993) and more recent research carried out at the University of Stirling (eg McKenna & Simpson 2011).

RESULTS OF SURVEY AND EXCAVATION

SURVEY RESULTS AND SITE DESCRIPTION

The natural islet of An Dunan is located at the north end of Tràigh nan Srùban, near to Crowlista, Uig, West Lewis. Tràigh nan Srùban



ILLUS 6 Phase 1 plan with main contexts located



ILLUS 7 Orthostats (086) and central area of site in Phase 1 (Photo: Simon Gilmour)

runs north from Camas Uig and currently forms a shallow tidal inlet. The islet consists of a raised bedrock knoll in the midst of what is now a salt marsh (illus 4). Prior to excavation, several large stones of Lewisian gneiss could be seen protruding through the turf on the summit of the knoll, which seemed to delimit a possible small curvilinear building. A visible causeway, also composed of large gneiss blocks, crosses the marsh from north-east to south-west and seems to dog-leg midway. It emerges from a natural promontory jutting into the marsh at the base of a steep rise to the north-east and is enveloped by salt marsh before reaching the knoll. The marsh is cut by several natural watercourses and some modern drainage ditches. There are faint traces of agricultural rigging running into it around its northern limits and possibly to the east of the site. Coring of the saltings adjacent to the site demonstrated that over 3m of sand lay below the present organic surface (illus 5). This would have taken many millennia to form and so the present geomorphic configuration is likely to have been similar in the Iron Age,

with sea level likely to be similar to the present spring high tide (Jordan et al 2010).

EXCAVATION RESULTS

The excavation results are presented by phase rather than by trench to offer a clearer understanding of the chronological development of the site. Five discrete phases of construction activity have been identified at An Dunan. These can be grouped into two periods of use, with the main period dated to the Middle Iron Age between the 4th century cal BC and 1st century cal AD (Phases 1–4), and later small-scale re-use in the medieval period between 11th–15th centuries cal AD (Phase 5). Composite plans and sections have been illustrated, with key contexts located.

Phase 1 (illus 6)

The initial phase of use consisted of a sub-rectangular dry-stone structure (contexts 178, 008, 150, 093, and 006) associated with a compact clay deposit interpreted as the primary



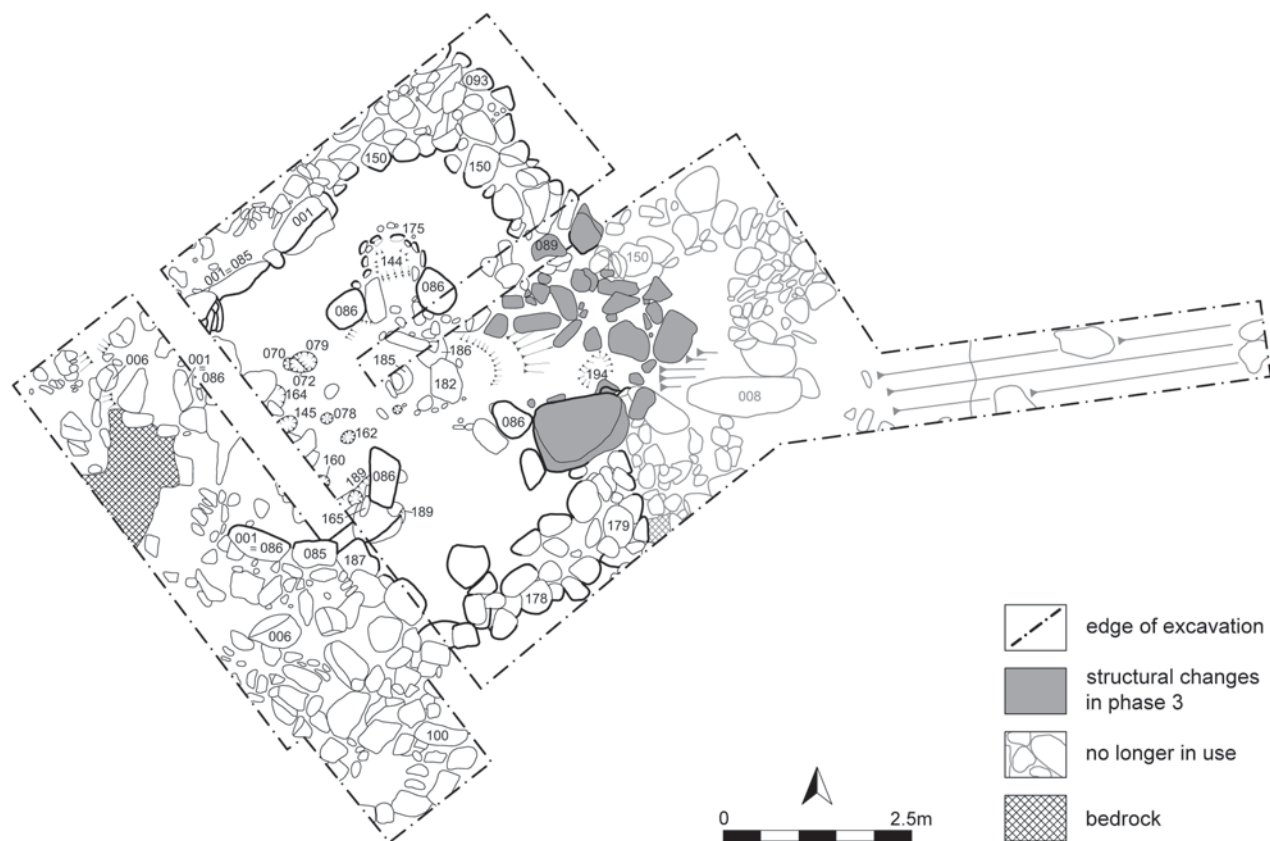
ILLUS 8 Ash deposits in ash mound (Photo: Simon Gilmour)

floor (126, 065, 066, 027) overlying the natural sub-soil (illus 13). The structure appears to have been accessed by an entrance on the west side through a gap in wall 001. Fragments of

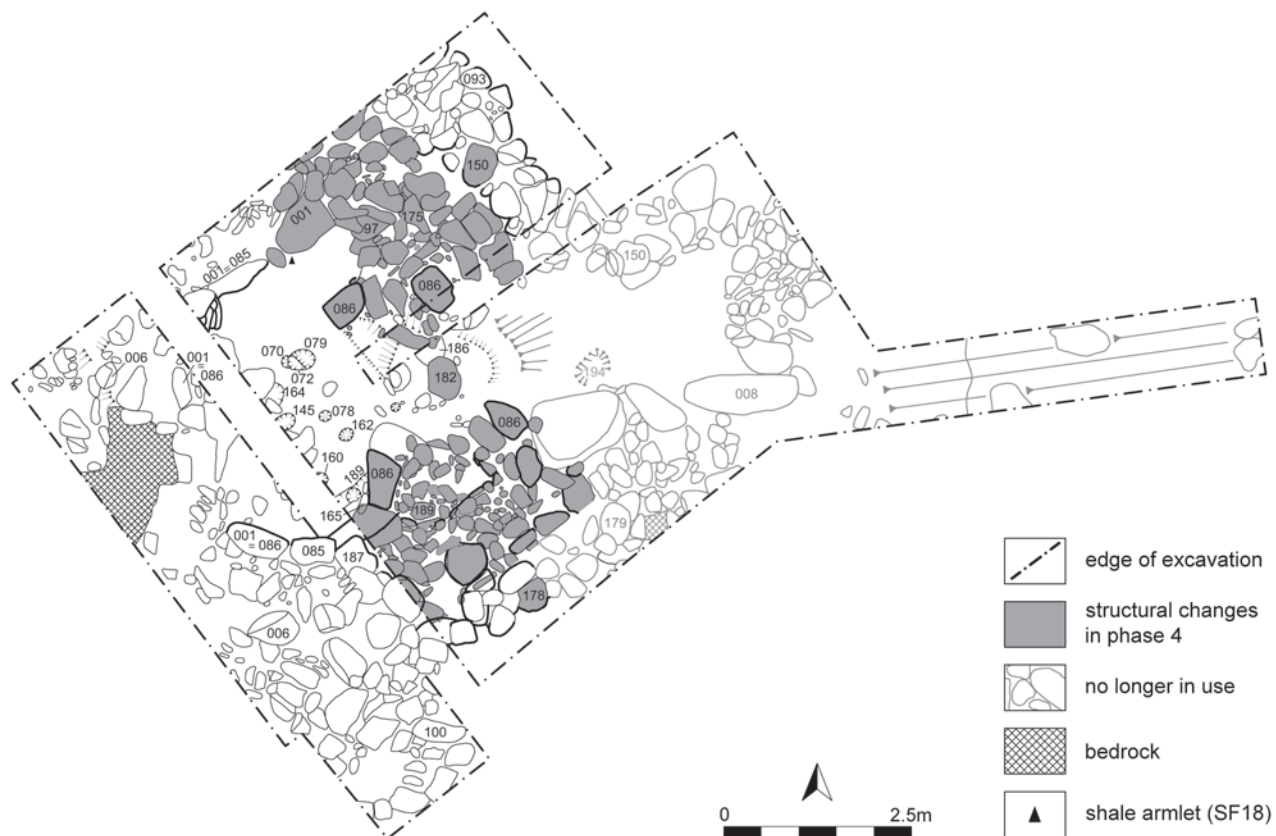
incised pottery were discovered within the wall fills of the structure.¹ These walls were constructed of rubble faced by irregular stones, sometimes including large orthostats. Several



ILLUS 9 Stepped feature (144) in Phase 1 (Photo: Simon Gilmour)



ILLUS 10 Phase 3 plan with main contexts located. Structural changes are indicated in dark grey



ILLUS 11 Phase 4 plan with main contexts and shale armlet located. Structural changes are indicated in dark grey

pits and shallow scoops were cut into the clay floor surface (for example 079, 078, 072, 070, 145, 162, 160, 164, 194), some of which may represent post-holes, perhaps for a timber superstructure. This building incorporated what appeared to be an elaborate central 'hearth' or ash mound, defined by layers of ash and bounded by four large orthostats (086) (illus 7). The ash spreads occupied a large area, approximately 1.4m × 1.7m, and were preserved to a depth of 60cm. The ash deposits overlay a basal clay foundation (185 and 149) and consisted of several discrete ash layers (illus 13) that appeared to represent individual ash deposits. The significance and longevity of use of this ash mound are demonstrated by its depth and its commanding position in the centre of the structure (illus 8). During this phase, the area around the ash deposits appears to have been clear, apart from a small stepped feature (144) made from compact clay and ash and defined by arcs of stones (175); this seems to have been designed to provide formal access to the central ash mound (illus 9). Small finds from the Phase 1 ash mound included a rim sherd and some fragments of unidentifiable calcined animal bone.² At least two separate clay layers (185 and 180) within the series of ash deposits indicate that it incorporated different phases of use that required resurfacing. The rest of the fills of the building are difficult to sequence because they are all very similar. Five niches in the south wall of the sub-rectangular structure (178/179/187) belong to Phase 1. They are associated with a silty deposit (177) and a number of small finds including several pottery sherds, some of which were decorated.³ Context 084, a floor level, also represents Phase 1 activity.

Phase 2

Phase 2 saw the accumulation of extensive ash spreads (152, 172 and 153) to the south and east of the building, extending beyond the four central orthostats (086). A range of small finds was discovered within these ash

spreads, including unidentifiable calcined bone fragments, rim sherds of incised pottery and a quartz scraper.⁴ A clay lens (158) in the central ash mound was followed by several trampled, cut and/or re-cut layers of burning (069, 067, 058, 053 and 052) containing more calcined bone and pottery.⁵ These layers were delimited by large flat stones (168). A series of compact peat ash deposits (154, 155, and 157) was interspersed with a spread of red ash (152) that extended across the entire southern area of the site (see illus 13). This period also seems to have seen the continued use of the five niches in the southern wall (178 and 008) in which fragments of unidentifiable calcined bone and pottery were discovered.

Contexts 034, 035, 046, 047 and 048 were a series of deposits that could not be securely phased because they lay in an area where the stratigraphy was mixed. However, they appear to be rubble fills and deposits associated with, but later than, the initial walls of the sub-rectangular structure and therefore probably belong to Phase 2. Only context 047 had any associated small finds: ceramic sherds and a rubbing stone.⁶

Phase 3 (illus 10)

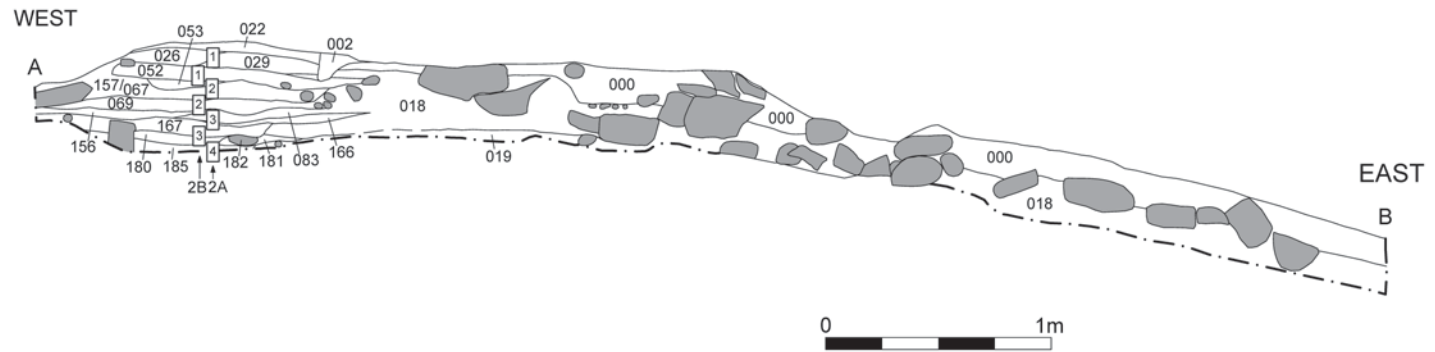
The initial part of this phase involved the blocking off of the eastern area of the site by rubble infill (089). It also included a series of deposits in the ash mound (056, 057, 127, 128, 135, 136 and 151) that contained further small finds, including a scatter of pot sherds with examples of decorated pot, calcined bone, carbonized material and quartz pebbles.⁷

Context 171 was in the north-west area of the site and was difficult to relate stratigraphically to the rest of the site. However, it seems most likely that it belonged to Phase 3 and was one of a series of deposits related to the occupation of the sub-rectangular building and the ash mound. The same is true of contexts 026 and 029 which were almost certainly Phase 3 ash deposits related to the top of the ash mound.

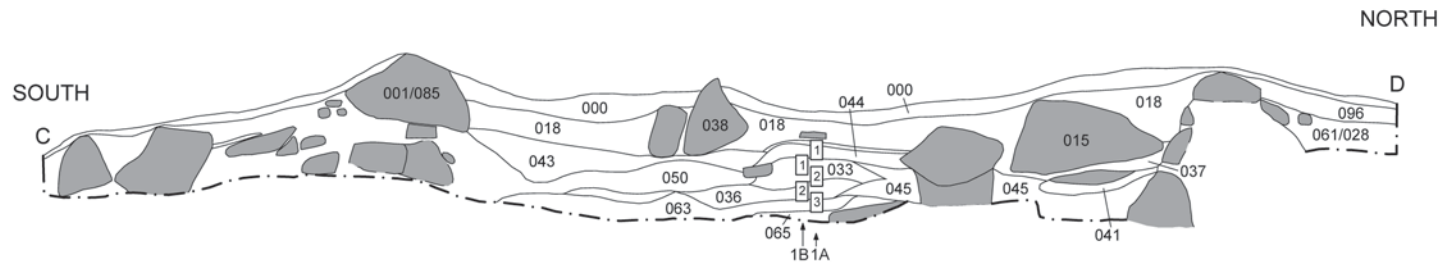


ILLUS 12 Phase 5 plan with main contexts located. Active contexts and stonework are indicated in dark grey

Trench 1, south facing section



Trench 1, east facing section



ILLUS 13 Selected section drawings relating to trench edges identified in illus 12

Phase 4 (illus 11)

During this later period it appears that the northern area was segregated by the construction of a curving wall (097) forming a new cell feature. Wall 097 also blocked the stepped feature (144) and therefore access to the central ash mound. The cell was filled by several deposits containing some carbonized material and a rim sherd⁸ (033, 037, 041, 042, 044, 050, and 098). It was in context 044, one of the Phase 4 deposits abutting the cell wall (001), that a remarkable shale bangle was discovered.⁹ The bangle is penannular but may be a whole bangle that has broken and been repaired (see below). This phase of construction also saw revetting of the outer east wall (092) and former entrance 089 filled with deposits 088 and 111 in which a selection of fragments of pottery were discovered, together with a hammerstone.¹⁰

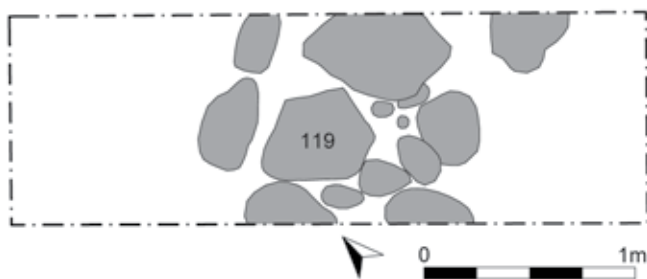
Context 002, overlying 022, was a deposit in the entrance to the sub-rectangular structure; both these contexts were difficult to phase but probably belonged to Phase 4. Contexts 091, 148 and 170 were also probably all Phase 4 deposits overlying ash spreads of Phase 2 (152, 153 and 172). Context 010 was probably the result of erosion from the walls of the early sub-rectangular structure and wall 178/179, which may reflect a hiatus in use or a period of abandonment of this area of the structure.

Contexts 174 and 176 were both deposits abutting wall 178/179.

Phase 5 (illus 12)

During this final phase, the hard-packed deposit (127) at the south-east corner of the structure and the upper layers of the underlying ash mound were disturbed when a secondary building was inserted. This structure (001, 085, and 086) was defined by an oval arrangement of orthostats utilizing existing elements of the underlying structure. The walls of the new structure were backed by rubble. This oval-shaped building incorporated a low stone feature to the south (038), which could be either a bench or a shelf and is associated with a grey/gritty 'floor' layer (030). The western side of the structure included a small alcove within the wall. This western area was filled by a deposit of earth (064), which was similar to the fills of the rest of the building (005, 018, 020, 024 and 030). With the exception of some unidentifiable calcined bone in 024, these deposits did not contain any small finds.

A 1m×3m trench was opened across the causeway (illus 14), which showed the causeway itself to be a pathway consisting of roughly arranged stones (119) which were set into brown-grey slightly organic sand. The pathway followed a 'dog-leg' course to the islet. No dating evidence was found in this trench.



ILLUS 14 Plan of trench 4 across causeway (see illus 3 for location)

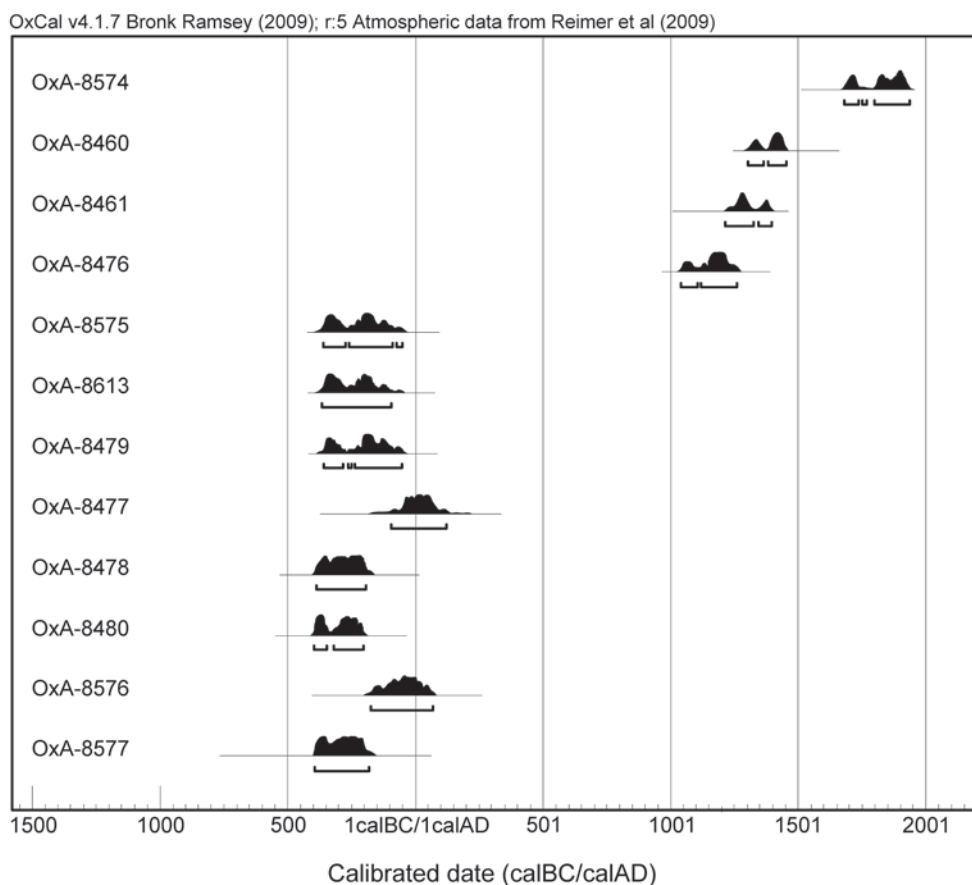
TABLE 2
Radiocarbon dates (* indicates an auto-duplicate sample of the same grain)

<i>Sample details</i>	<i>Phase</i>	<i>Sample type</i>	<i>Reporting number</i>	<i>Date</i>	<i>Error</i>	<i>δ13C</i>	<i>Calibrated date AD</i>
AD S.5B C.5	5	Barley grain	OxA-8574	65	45	-24.4	1681–1937 cal AD
AD S.5A C.5	5	Barley grain	OxA-8460	520	50	-26.9	1304–1453 cal AD
AD S.14A C.30	5	Rhizome fragment	OxA-8461	710	55	-26.1	1215–1395 cal AD
AD S.14B C.30	5	Birch roundwood	OxA-8476	865	40	-26.3	1043–1259 cal AD
AD S.109 C.151	3	Barley grain	OxA-8575	2155	45	-24.6	361–56 cal BC
AD S.104B C.128	3	Barley grain	OxA-8613	2165	40	-21.7	365–95 cal BC
AD S.104A C.128	3	Barley grain	OxA-8479	2145	40	-23.4	358–53 cal BC
AD S.47A C.67	2	Barley grain	OxA-8477	1985	45	-24.6	96 cal BC–126 cal AD
AD S.47B C.67	2	Hazel nutshell	OxA-8478	2215	40	-22.8	388–193 cal BC
AD S.102 C.153	2	Barley grain	OxA-8480	2250	35	-23.8	394–206 cal BC
AD S.110A C.152	2	Barley grain*	OxA-8576	2035	50	-24.6	175 cal BC–67 cal AD
AD S.110B C.152	2	Barley grain*	OxA-8577	2230	50	-25.1	395–185 cal BC

SITE CHRONOLOGY

The *total* bulk sampling strategy employed on the site meant that multiple short-lived (seasonal) terrestrial-based plant macrofossils (barley, hazel nutshell, birch roundwood and a rhizome fragment) were available from the main phases for radiocarbon dating, apart from Phase 1. Following the Historic Scotland protocol of Ashmore (1999), two single-entities were dated from undisturbed stratigraphic layers, totalling 12 dates from the site. The samples were sent to the Oxford Radiocarbon Accelerator Unit for AMS dating (Table 2). The dates were calibrated

using OxCal 4.1.7 (Bronk Ramsey 2009) and atmospheric data from Reimer et al (2009). When plotted (illus 15), the dates clustered in the Iron Age and the medieval period. The earliest dates from the site are from Phase 2 contexts 152 and 153, which were ash spreads in the southern part of the interior of the building and suggest a date range of late 4th century cal BC to 1st century cal AD. Dates for Phase 3, obtained from burnt barley grains in contexts 128 and 151 (also ash spreads in the area south and east of the main ash mound), provide the same date range as Phase 2, supporting the premise that the initial four phases were probably in rapid succession before



ILLUS 15 Calibrated radiocarbon dates, using OxCal 4.1.7 (Bronk Ramsey 2009) and atmospheric data from Reimer et al (2009)

a hiatus between the Iron Age use of the site and the subsequent occupation during the final Phase 5. This latter phase was dated using burnt barley grain (context 005) and birch charcoal (context 030) and ranges between the 11th–15th centuries cal AD. The radiocarbon dates, combined with the archaeological stratigraphy and phasing, suggest that the site was occupied more or less continuously across the mid-Iron Age and then saw subsequent activity several centuries later in the medieval period.

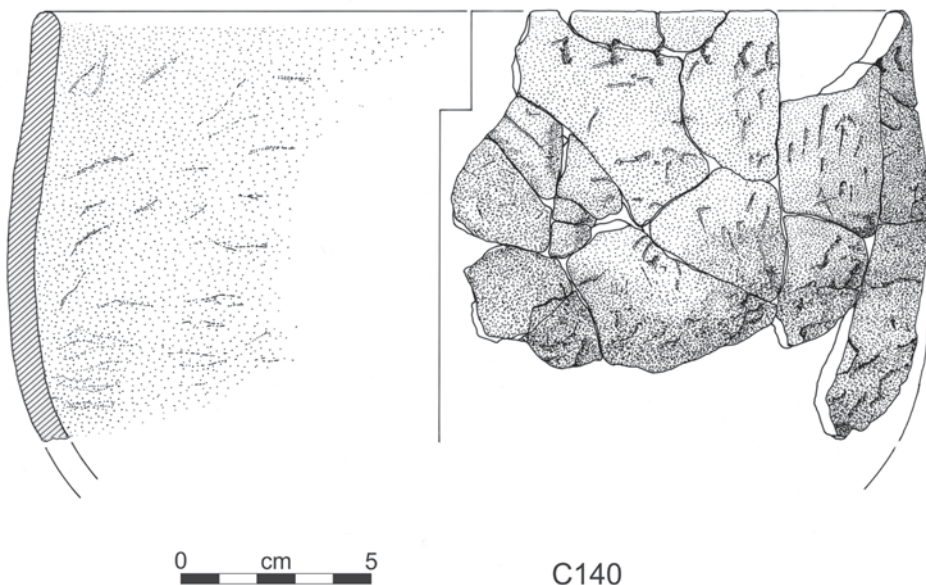
MATERIAL CULTURE

Selected artefacts have been illustrated and are presented in illustrations 16 to 25. Most of the artefacts illustrated come from the Iron Age Phases 1–4 and all illustrated artefacts are described in detail in Appendix 1. A full catalogue of artefacts can be found in the site archive.

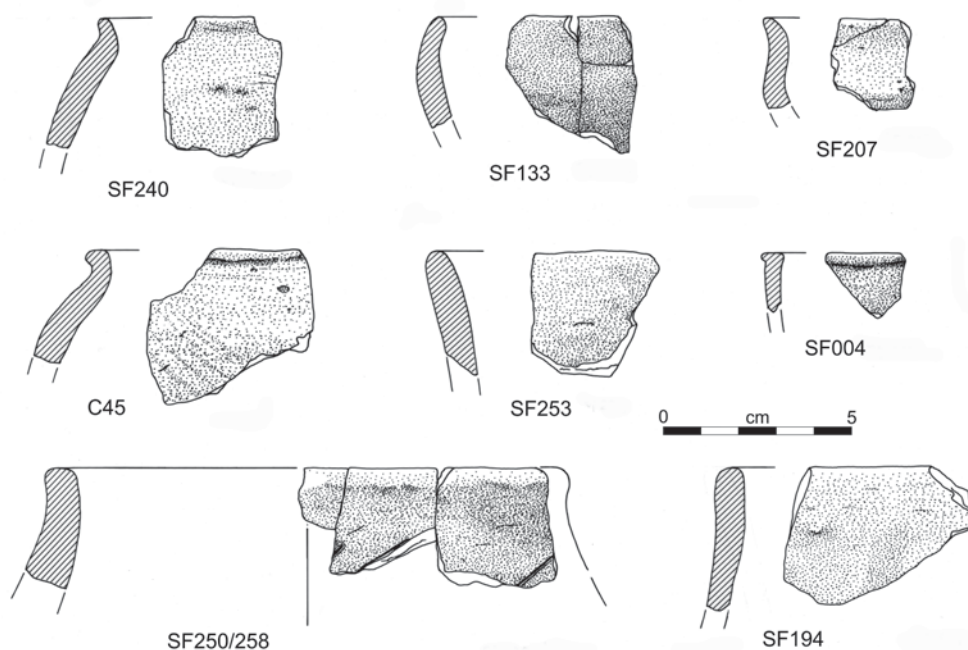
POTTERY

Ann MacSween and Melanie Johnson

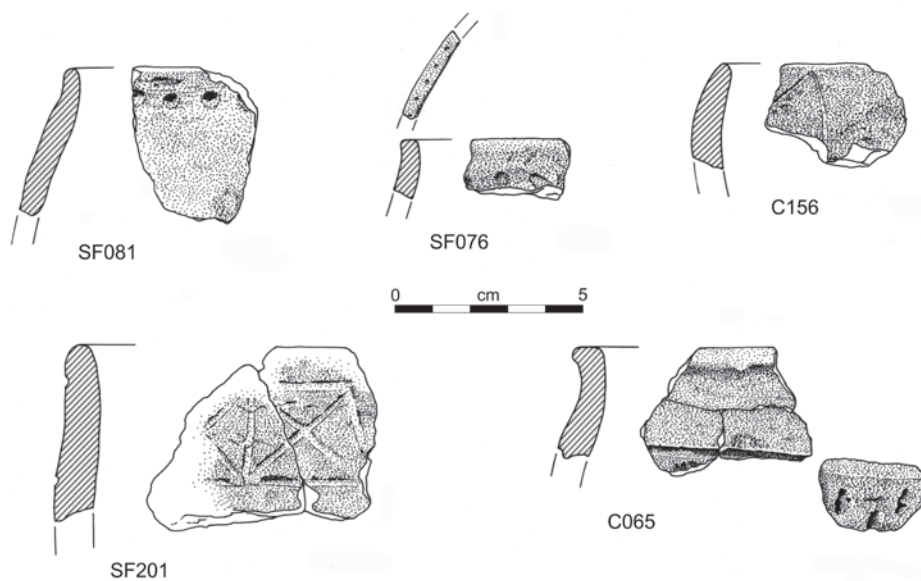
There were 2,341 sherds of coarse pottery, weighing 10.4kg, much of it fragmented and abraded, recovered during the excavations at An Dunan. Specific well-preserved fragments have been illustrated to represent the main features of the assemblage (illus 16 to 21). The assemblage was catalogued by Melanie Johnson, with fabric descriptions added by Ann MacSween. Sherd matching to the same vessel was undertaken for sherds with the same finds number. The number and type of rims, basal and body sherds were recorded, together with surface finish, decoration, fabric (clay and temper), and colour. Analysis of the data did not result in any clear sequence being identified from the pottery assemblage. This indicates either that the ceramic assemblage changed little over the Iron Age phase of occupation on the site or that there was a degree of mixing on the site



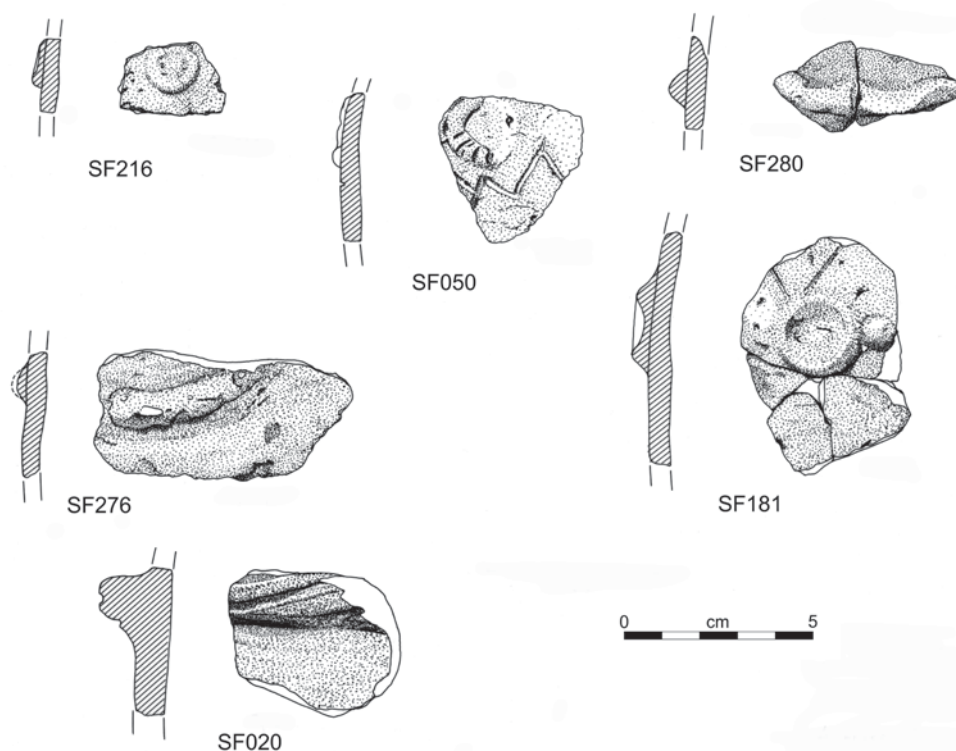
ILLUS 16 Pottery scatter in context 140 (CAT194)



ILLUS 17 Selected plain rim sherds



ILLUS 18 Selected decorated rim sherds



ILLUS 19 Selected body sherds with applied decoration

sufficient to mask any changes in the make-up of the assemblage from Phases 1 to 4, the late 4th century BC to the 1st century AD. A small amount of hand-thrown pottery was recovered from Phase 5, the medieval occupation. This was similar to the pottery from Phases 1 to 4 and can be considered to be residual. The average sherd weight was just 4.4g, indicating the degree to which fragmentation had occurred.

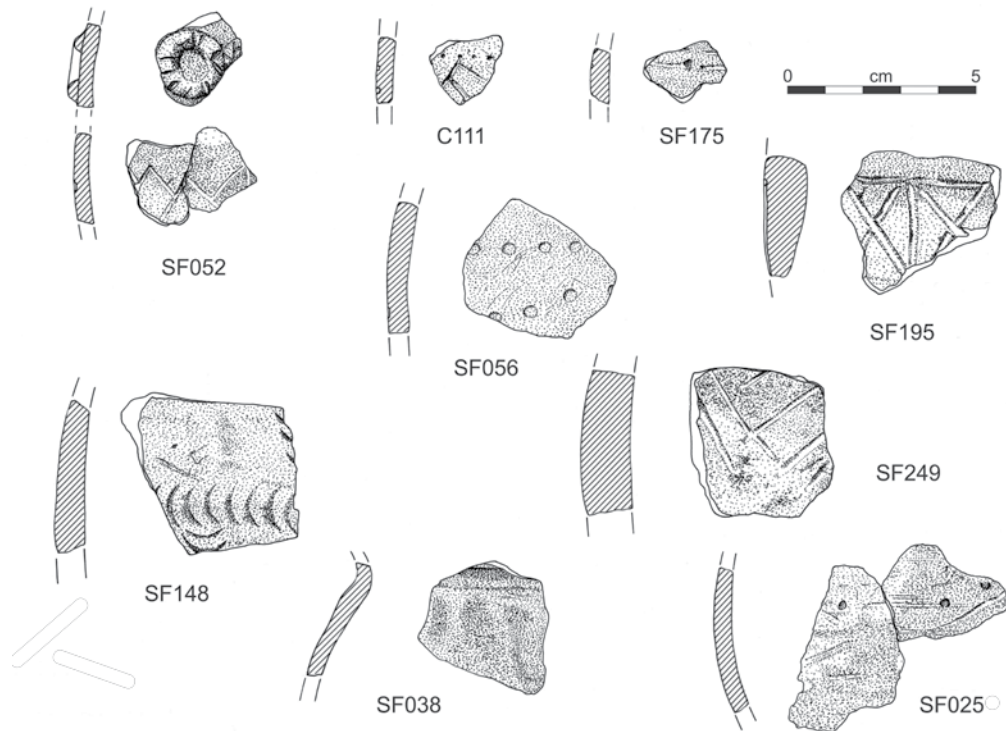
While pottery was recovered from a very large number of the excavated contexts, only 11 contexts produced over 200g in weight of pottery each: these were 047, 130, 138, 140, 147, 156, 159, 166, 173, 177 and 193, which together account for more than two-thirds of the total quantity of pottery recovered (7,402g). The contexts which individually produced over 1kg

of pottery were 156, 159 and 177. All of these deposits belonged to the occupation layers from Phases 1 to 4 that were spread across the interior of the Iron Age structure, surrounding the ash mound.

Summary of the assemblage

Vessel types

Most of the sherds are small and abraded but, where vessel shape could be determined, the impression is that most vessels were flat-based, globular jars, with occasional straighter-sided vessels. The most common rim forms were plain/rounded (illus 18, SF201 – CAT230) and flat but everted rims (illus 18, C065 – CAT61): short everted rims (illus 17, SF240



ILLUS 20 Selected body sherds with incised decoration

– CAT291), flaring and more sinuous rims (illus 17, SF207 – CAT273), inverted rims (illus 18, C156 – CAT221) and rolled rims (illus 17, C045 – CAT39) were also noted. Bases were flat and the wall could rise smoothly from the base (illus 21, SF253 – CAT298; SF015 – CAT45; SF106 – CAT186) or could have a small foot or pedestal (illus 21, SF202 – CAT271; SF068 – CAT177; SF194 – CAT228). The bases could be flat on the interior or domed, where sufficient survived to allow identification, and a small number of examples of omphalos bases were recorded, where the underside of the base is concave (illus 21, SF106 – CAT186).

Fabrics

Most of the pottery is fine or medium wall thickness (less than 8mm). A range of clay

types was recorded – coarse sandy clay, sandy clay, fine sandy clay or fine clay. Many of the sherds had rock fragments added. Sometimes the presence of larger fragments of quartz was noted. It was difficult to determine how much of this was natural to the clay and how much was added, but in describing the fabric an attempt was made to differentiate between the sandy matrix and the larger fragments. Occasional use of organics was also noted, sometimes in addition to rock temper. Colours varied widely, as is typical of low-fired prehistoric ceramics, ranging through reds and oranges to browns and greys. Some of the pottery was fully oxidised but most had dark cores and were often paler in colour on the exterior. The vessels were likely fired in a simple clamp kiln or the ashes of a fire.

Few examples of manufacturing techniques survive, but where they do they include: (1) the

joins between coils visible on the interior where they have been imperfectly smoothed over, an example of a tongue-and-groove coil join, (2) bases which have an angled join between the base plate and the first coil/slab forming the wall and (3) the base has been manufactured with a 'tongue' to aid in attachment to the wall. These weak points are where the vessel is most likely to break.

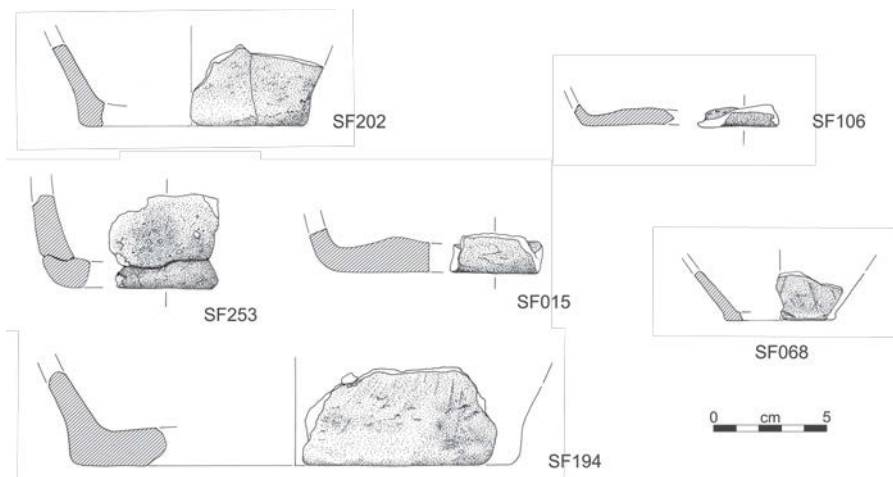
Surface finish

Many of the sherds are abraded but, where the surfaces have survived, smoothing and wiping are the most common methods of surface finish. The vessels with a smoothed exterior surface had been given a wet hand smoothing to draw the finer clay particles to the surface. For some of the wiped vessels it is possible that the wiping was being used to produce a decorative effect. Rilling, the production of coarse parallel lines on the surface of a vessel, was noted on a few sherds from Phase 1.

Decoration

A small percentage of the assemblage (less than 1%) is decorated. A variety of decorative techniques were used. Incising was used to form

a range of designs, including cross-in-a-box (a band of geometric decoration – adjoining squares with crosses within; illus 18, SF201 – CAT230; illus 20, SF195 – CAT229), incised V-shaped decoration (illus 18, C156 – CAT221), possibly part of a zigzag, multiple zigzag and lattice, and other geometric motifs (illus 20, SF249 – CAT308). Incised decoration was sometimes used in combination with impressed decoration, including triangular-based incised decoration with a row of small impressed dots (illus 20, C111 – CAT115), incised lines and a small circular impression (illus 20 SF175 – CAT250), a row of incised grooves below the neck of a vessel, the rim lip decorated with a line of impressed dots (illus 18, SF076 – CAT158) and a thick incised line in combination with a row of possible bone impressions (illus 18, C065 – CAT61). Impressed decoration is also found on its own, including a row of oval impressions on the point of inflection between the body and rim (illus 18, SF081 – CAT200), two rows of impressed dots (illus 20, SF056 – CAT145) and rows of fingernail impressions at right angles (illus 20, SF148 – CAT244). Applied decoration was also used, including an applied roundel decorated with incisions in combination



ILLUS 21 Selected pottery bases

with incised zigzag motifs (illus 20, SF052 – CAT136), an incised cordon (illus 19, SF020 – CAT47), an applied boss with a small clay pellet (illus 19, SF181 – CAT257), circular bosses (illus 19, SF216 – CAT275), wavy cordon (illus 19, SF280 – CAT327) and other cordons (illus 19, SF276 – CAT113).

Other decorative motifs recorded, but not illustrated here, include an incised line in combination with an impressed ring, two further examples of stabs along the rim top, examples of incised lines in conjunction with small dots/circular impressions, examples of round and other shaped impressions and fingernail impressions, additional examples of applied bosses, and incised lines or applied decoration on small sherds where the overall motif/form cannot be determined. The decoration is found on the upper part of the vessel, often immediately below the rim or in the inflection of the neck, or at its belly; decoration is not recorded below the belly of any vessels, or on the base.

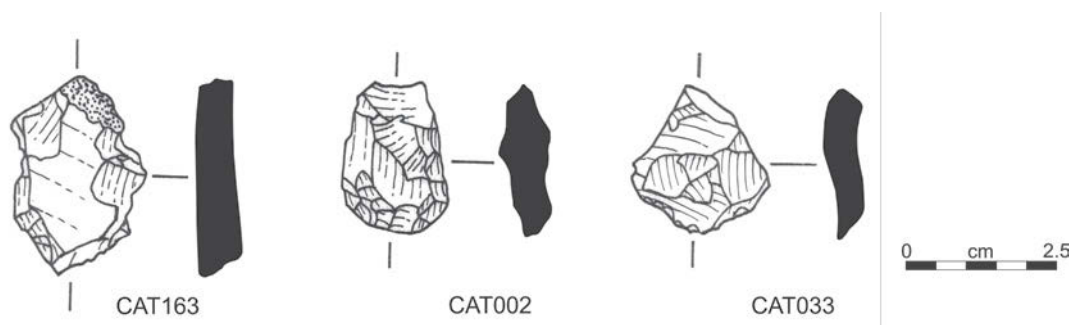
Discussion

The assemblage from An Dunan finds parallels with many assemblages from the islands off Scotland's north-west coast. The assemblage from the site of Cnip on Lewis (MacSween 2006), with occupation at the site dating from around 100 BC to AD 100 (Armit 2006), has many similarities with An Dunan. For example, flat, everted and plain rims were used throughout the life of the site and smoothing and wiping of the vessel surface were the most common surface-finishing techniques. In common with the An Dunan assemblage, a mix of fairly thin-walled vessels and thicker-walled vessels was included. There are also close similarities in the use of some decorative features. For example, the rows of fingernail impressions at right-angles (found in Phase 2 pottery at An Dunan) can be paralleled with a sherd from Phase 3 of Cnip (AD 100–250) (MacSween 2006: 132, illus 3.17d), and the row of fingertip impressions below the rim (seen in a Phase 4 sherd from An Dunan)

with a vessel from Phase 1 at Cnip (*c* 100 BC) (ibid: 108, illus 3.3g).

The applied roundels noted in the An Dunan assemblage have parallels with a number of vessels from Cnip (cf a vessel from Phase 2 – ibid: 114, illus 3.6b.b), as do the decorated cordons (cf a vessel from Phase 3 – ibid: 132, illus 3.17c). A small number of applied bosses are recorded at Dun Vulcan (La Trobe-Bateman 1999: fig 4.19, fig 5.15, fig 5.21, fig 6.18), and one of the examples is paired with incised lines in a triangular or zigzag motif (ibid: fig 5.17), which has similarities with CAT121 (SF050) and CAT257 (SF181) at An Dunan. Limited examples of bosses and roundels were noted at Sollas (Campbell 1991), Eilean Olabhat (Armit et al 2008) and Dun Bharabhat (Harding & Dixon 2000), and this technique only ever plays a small role in the Iron Age. Applied wavy cordons are common throughout the Early and Middle Iron Age, and the use of applied decoration becomes dominant in the later Middle Iron Age (cf Johnson 2005); therefore, its origins may perhaps be seen during this earlier period. Pottery with rim top decoration also forms a very small part of Early Iron Age assemblages, for example at Dun Vulcan (La Trobe Bateman 1999, fig 4.13) and Sollas (Campbell 1991, illus 15).

Many other assemblages from a range of settlement types of a similar date in the islands share attributes with An Dunan. These include the excavations at Dun Vulcan, South Uist (Parker Pearson & Sharples 1999), where decoration includes incised lattice decoration and impressed dots (La Trobe-Bateman 1999: 215, fig 9.2); the Middle Iron Age phases at Sollas, North Uist, which dated to the first two centuries AD (Campbell 1991), where decoration includes impressed lentoid decoration (ibid: 153, illus 17.180) and obliquely incised cordons (ibid: 152, illus 16.341); the earthhouse at Tungadale on Skye (Miket 2002), where pottery with applied roundels was included (ibid: 99, illus 31, 16 and 26); and the broch of Dun Mor Vul, Tiree (MacKie 1974), where



ILLUS 22 Selected worked quartz

decoration includes incised chevrons (ibid: fig 11.17). Other sites of similar date to An Dunan include Eilean Olabhat (Armit et al 2008) and Dun Bharabhat (Harding & Dixon 2000), where the pottery assemblages also share many of the same vessel shapes and decorative techniques and motifs.

While many comparisons can be made, there are also many differences between assemblages and it seems that while there are similarities throughout the region, there are also striking variations in the make-up of assemblages. For example, no parallels have been found for the cross-in-a-box motif seen at An Dunan, although crosses in themselves are not unknown in the Iron Age. This probably reflected the preferences of households, selecting from a commonly used pool of surface-finish techniques and decorative techniques and motifs used by a wider community (MacSween 2006: 103).

LITHICS

Torben Bjarke Ballin

During the excavations, a small lithic assemblage was recovered, almost exclusively from the site's Iron Age phases. This section characterises the lithic artefacts in general terms, with special reference to raw materials, typological composition and technology. In total, 1,087 lithic artefacts were recovered; 99% of the assemblage is debitage, supplemented

by eight modified/used pieces (illus 22). The artefacts are referred to by their catalogue number as detailed in the site archive rather than their small find number, as some artefacts were not numbered, having been recovered from samples.

Raw materials – types, sources and condition

The assemblage consists exclusively of quartz. To the naked eye, much of the raw material seems to be milky quartz, but magnification shows that almost all of the raw material is very fine-grained saccharoidal quartz. It is generally quite pure, without many impurities, such as mica. Practically none of the pieces have abraded cortex, and this fact, in combination with the presence of many coated fault planes (Ballin 2008), defines the raw material from An Dunan as almost exclusively vein quartz from one or more primary sources. The coating is partly in the form of rust-coloured 'dust' or discoloration, and partly in the form of exceedingly fine micro-crystals. The choice of raw material is interesting as it sets An Dunan apart from the quartz assemblage from another of the Uig Landscape Project sites, the Late Bronze Age/Early Iron Age promontory enclosure of Gob Eirer (Ballin 2011). Both sites are located immediately on the coast and they are both of later prehistoric date, but at Gob Eirer pebble quartz from local beaches was preferred and not quarried vein quartz.

Assemblage characterisation

Most of the assemblage (1,079 pieces or 99%) is debitage. A total of 601 pieces (56%) are chips, with flakes amounting to 132 pieces (12%), and indeterminate pieces (chunks) totalling 346 (32%). Flakes are uncommon at the site (12%, against 44% at Gob Eirer) and the few flakes are either bipolar pieces or chunky, almost cubic flakes (identified as flakes and not indeterminate pieces by the presence of a ventral face). It is clear that the debitage was produced by 'bashing' plates of quarried quartz on anvils, and this work is probably better characterised as crushing than traditional knapping. The fact that one-third of the debitage is represented by indeterminate pieces reflects the character of the quartz, which was criss-crossed by numerous, frequently closely spaced, fault-planes. Consequently, the exploited quartz has poor flaking properties and would not have been suitable for traditional flake or blade production.

The collection includes eight tools and, apart from one piece (CAT2), all are informal, expedient implements. CAT2 (illus 22) is a small elongated end-scraper (24mm × 18mm × 8mm) on an indeterminate piece. At one end, it has a highly regular, convex, steep scraper-edge. It was manufactured in ultra-fine-grained quartz with a 'greasy' lustre (cf Ballin 2008), and the raw material, as well as the careful execution of this piece, suggests that it may be a residual Early Bronze Age piece. The only other object in this quality of quartz in the collection is CAT33, a well-defined, standard hard-percussion flake, which may also be residual. CAT2 was recovered from Context 043 (the later, intrusive building), whereas CAT33 was found in Context 087 (topsoil). Two other end-scrappers (CAT174 and 175) were shaped by minimal retouch. The former is a small, almost cubic hard-percussion flake (15mm × 16mm × 9mm) with an uneven working-edge at its proximal end. The convex, steep scraper-edge was formed by the detachment of only three small removals. CAT175 is based on a small indeterminate piece (22mm × 18mm × 11mm), and it has an

expedient, slightly convex scraper-edge at one end. It is impossible to determine whether this edge was formed partly by sporadic retouch, or entirely by use. Rounding of its working-edge proves that CAT175 was utilized as a scraper.

CAT163 is a piercer, based on a small fragment of a thin plate of vein quartz (32mm × 21mm × 8mm). At one end, a robust, almost right-angled piercer tip was formed by retouching two merging edges. Magnification clearly shows that the tip is abraded (rounded) by use. CAT164 is a larger plate-fragment (70mm × 35mm × 21mm) with a notable notch (chord = c30mm) in one lateral side. This notch was formed by the detachment of at least two flakes. Parts of the sharp opposed lateral edge seem to be rounded, suggesting that this notched piece may also have been used for ad hoc cutting. Two implements (CAT176 and 177) were defined simply as retouched pieces. CAT176 is based on a fairly large fragment of a stout flake or a chunk (54mm × 48mm × 24mm). It has sporadic retouch along various edges, with the longest, convex edge possibly forming an uneven or denticulated scraper-edge. CAT177 is a small fragment of a flake (23mm × 15mm × 9mm) with relatively fine retouch along one lateral edge. CAT143 (47mm × 33mm × 18mm) is an interesting piece. It is probably a fragment of a large quartz plate, and it has been severely battered along both lateral edges. A more-or-less convex edge was worked entirely from one face, whereas the opposed, more-or-less straight lateral edge was worked from either face. The piece has clearly been used, and the 'bashed' edges, in conjunction with the presence of notable concavities along both edges, indicate that this could be a so-called 'fire-flint' (apart from the fact that the piece is in quartz and not flint). Two different techniques were applied to produce fire; early prehistoric fire-making involved a flint and a piece of pyrite (eg Stapert & Johansen 1999), whereas later prehistoric and historic fire-making relied on a flint and a mostly bullhorn-shaped steel implement (eg Koch 1990). It is suggested to limit the use of

the term 'strike-a-light' to the implements doing the actual striking (subject), and not the material which is being struck (object). This means that, in early prehistoric fire-making, the flint is the strike-a-light (as it strikes the pyrite), whereas, in later prehistoric/historic fire-making, it is not (as it is being struck by the steel strike-a-light). Referring to the struck later prehistoric/historic lithics as 'fire-flints' obviates this problem (Ballin 2005). The fact that the early prehistoric and later prehistoric/historic fire-making flints are subjects and objects respectively, results in notably different wear-patterns, with the former developing smooth abraded points, whereas the latter develop chipped and crushed edges, like the pieces collected from the present site.

Discussion

Generally, the assemblage appears typologically homogeneous. Only two pieces do not fit the impression of a collection produced by unschematic reduction, namely CAT2 and CAT33, which are also based on better quartz than the assemblage as a whole. Where the debitage was, in the main, manufactured by 'bashing' quarried quartz plates on anvils, CAT33 is a typical hard-hammer flake with a well-defined bulb of percussion. Also, though most implements are expedient, informal tools, CAT2 is a small, well-executed end-scraper which, in terms of size, is a border-line thumbnail scraper (in Ballin 2002 it was suggested to define Western Isles thumbnail-scrappers as pieces no larger than 23mm; see also Ballin 2008). It is likely that CAT2, and possibly also CAT33, are residual Early Bronze Age objects, with the bulk of the assemblage dating to the later prehistoric period. The closest comparative quartz assemblage is that of the Early Iron Age site of Burland on Trondra, Shetland (Ballin 2003), but even this simple assemblage was produced by the application of a more sophisticated operational schema than that applied at An Dunan.

The small number of expedient tools is probably best perceived as a group of ad hoc implements, produced by people who had

generally switched to the use of metal tools. It is not possible to associate the mass of debitage or waste with any particular context, or a well-defined group of contexts, and it is therefore not possible to produce a single answer to the question of why this material was produced. Some quartz may have been crushed for the inclusion in pottery as temper (Gibson 2002), but in prehistory crushed quartz was also occasionally scattered across monuments such as burials (Lebour 1914), as, for example, at Midross Site 5.1, by Loch Lomond, Argyll (Ballin forthcoming). The composition of the implements allows a small number of activities to be identified, such as scraping (CAT2, CAT174 and CAT175), piercing (CAT163), and probably fire-making (CAT143). It is not possible to define the specific use of the notched piece (CAT164) and one retouched piece (CAT177), though retouched piece CAT176 may possibly have been used for scraping.

AMBER

Fraser Hunter

A fragment of an amber bead was recovered from context 147, sample 101. Context 147 is a sandy silt deposit in the northern part of the Phase 1 structure and was situated to the north-east of stepped feature 144. The bead is broken along naturally flat fracture planes, which complicates reconstruction of its form. Around a quarter of the circumference is preserved, with a cylindrical perforation about 1mm in diameter. The surviving surface is convex, tapering to the top, which suggests it was originally barrel-shaped. The surviving dimensions are H 4mm, W 3.5mm (original D c5mm). This discovery is testament to the value of a rigorous sampling strategy for maximising artefact recovery, as it would be near-impossible to spot in the trench. The find is an important one; amber is a non-local raw material, ultimately from the Baltic, although it is likely to have passed through several hands on its way to the site. It is a rare

TABLE 3
Summary of coarse stone assemblage by phase

<i>Tool type</i>	<i>Phase 1</i>	<i>Phase 2</i>	<i>Phase 3</i>	<i>Phase 4</i>	<i>Phase 5</i>
Grinder	SF177				
Pounder	SF290	SF135			
Smoother			SF139		
Multi-function cobble tool	SF161			SF6	SF283
	SF281			SF23	
Flaked disc				SF11	
Abraded pumice		S.20			
Shale armlet				SF18	
Fire-cracked stone	SF218			SF49	
<i>Total per phase</i>	<i>5</i>	<i>2</i>	<i>1</i>	<i>5</i>	<i>1</i>

find in an Iron Age context; some 21 findspots are known, scattered across Scotland. These have been summarised previously (Hunter 1998, with additions in Hunter et al 2009: 139, note 1; also a recent unpublished find from a cave at Fiscavaig, Skye and a bead from Carrol broch, Sutherland; MacKie 2007: 644). In a regional context, a bead from Dun Bharabhat is the nearest neighbour (Harding & Dixon 2000: 28), but examples from Dun Vulcan, South Uist (Parker-Pearson & Sharples 1999), and Dun Ardtreck (Mackie 2000: 329) and Fiscavaig on Skye, show the material's spread in the area. As with the shale bangle (below), it shows that people in the Middle Iron Age were increasingly concerned with emphasising their personal appearance and status through exotic materials that would not be accessible to everyone.

COARSE STONE

Dawn McLaren with report on the shale armlet by Fraser Hunter and geological identifications by Fiona McGibbon.

The coarse stone tool assemblage from An Dunan, summarised in Table 3, is small in size and limited in terms of the range of tool types present. Dominating the assemblage are prosaic cobble tools produced from rounded, water-worn cobbles of gneiss and quartzofeldspathic fine grained rocks, all unmodified prior to use. A small abraded pumice nodule and a flaked stone gneiss disc, probably a small pot lid, are also present. The most significant find amongst this assemblage is a rare, intact, penannular shale armlet. The armlet has been produced from oil shale, a stone exotic to the Western Isles, and clearly represents an import. Its intact nature is rare, and suggests that it had been deliberately deposited as a votive offering.

Shale armlet (illus 23)

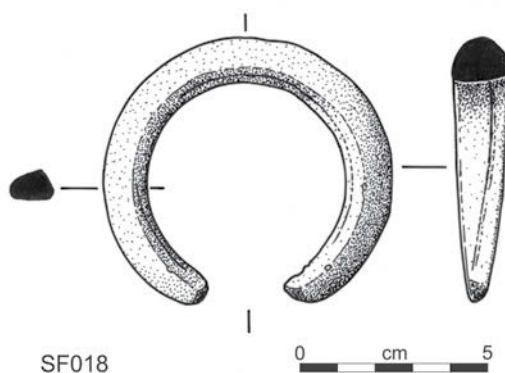
The use of bangles of shale, cannel coal and similar materials is long-lived and commonplace, running from the Early Bronze Age to the Norse period. In contrast, penannular armlets are exceedingly rare, and the writer knows only of fragmentary Early Iron Age examples

from Grimsthorpe, and perhaps Scarborough, Yorkshire (Stead 1968: fig 3.2; Wheeler 1931: fig 17.1), and an intact Roman example from London (unpublished; noted in Museum of London, 1996). Given this rarity, it may be questioned whether they represent a type rather than expedient modification. With An Dunan, the asymmetry suggests its shape may arise from expediency rather than design, and in other cases the penannular shape may arise from repair of a damaged bangle. The Scarborough example is unlikely to be genuinely penannular, as the perforation at one end is probably from the repair of a bangle; such fragments often show re-use, with shaped ends and perforations to tie broken pieces together, and the same phenomenon is recorded with glass bangles (Stevenson 1976: 53).

The raw material is of considerable interest. Analysis by the standard NMS methodology of X-ray fluorescence, X-radiography and visual inspection (Hunter et al 1993; Davis 1993) identifies it as an oil shale, based on its X-ray opacity, high iron and scatter peak ratios, and visible laminar nature. Such shales are known in Scotland from around Brora in eastern Sutherland, Skye and Raasay, and Central Scotland (Gibson 1922: 32–6, 52–6), while farther afield, the main source is the

Kimmeridge shale of Dorset. Unfortunately, different sources of oil shale cannot currently be discriminated by non-destructive methods, and sampling was considered inappropriate on such an intact object. However, the material is clearly exotic to the Western Isles. Jewellery of related black materials is rare in the area in later prehistory; apart from An Dunan, the only finds known are three bangle fragments and two beads from Late Bronze Age – Early Iron Age Cladh Hallan, South Uist (Marshall et al 1998: 103; Hunter forthcoming); bangles from Alt Chrisal, Barra (Gowans 2000: 188), Bruthach Mor, Benbecula (unpublished; Cambridge Univ. Mus. Z20850), Newton, North Uist (unpublished; NMS GT 1272), and somewhere on North Uist (Close-Brooks & Maxwell 1974: 290); a bead from Garry Iochdrach (Beveridge & Callander 1932: 41); and perhaps a lump of raw material from Cleittraval, North Uist (Scott 1948: 67). It is likely the An Dunan bangle and the above items were objects of some status that were rare in regional terms.

This idea of objects as status indicators in the latter first millennium BC is an important corrective to recent scholarship, which has argued that artefacts were essentially prosaic in the Early to Middle Iron Age and architecture was the forum for expressions of identity and



ILLUS 23 Shale armlet (Photo: National Museum of Scotland)

TABLE 4

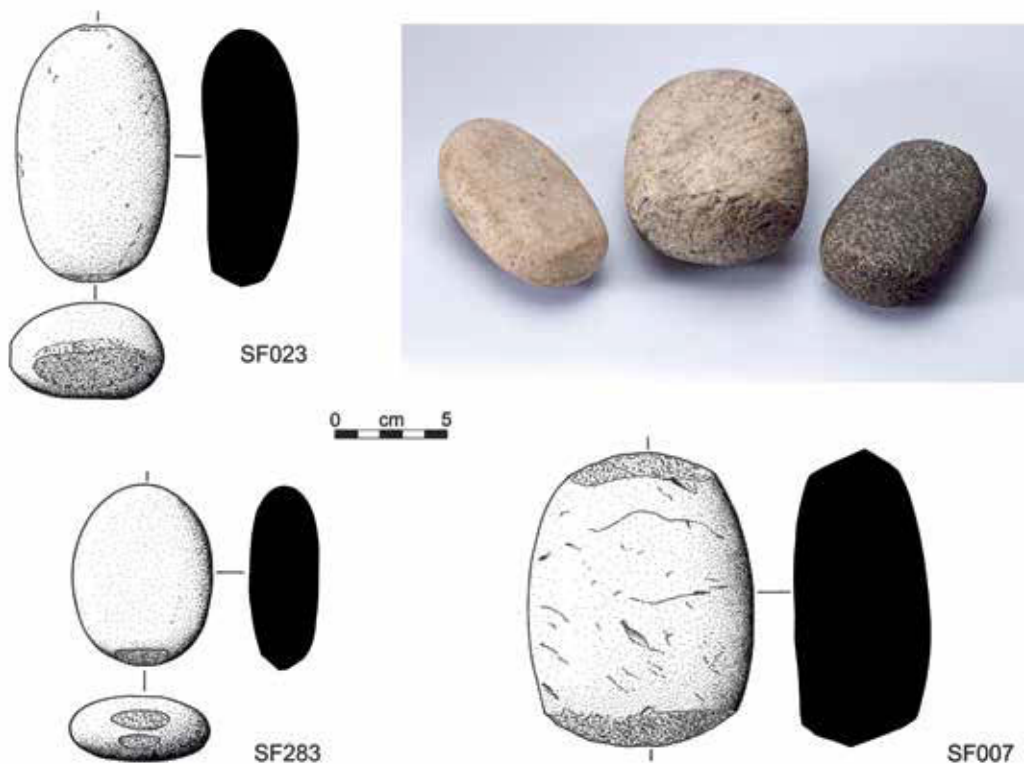
Intact armlets in Scotland not from certain burial contexts. Only finished armlets are listed, though the occasional discovery of unfinished armlets in contexts such as cairns suggests they may be worthy of study (eg unfinished bangle from a cairn at Moss-side, Ayrshire; *PSAS* 27 (1892–3): 366)

<i>Site</i>	<i>Circumstances</i>	<i>Location</i>	<i>Reference & notes</i>
Dalry, Kirkcudbrightshire	Moss	NMS FN 1	<i>NMAS</i> 1892: 217 (incorrectly given as Ayrshire; from context of entry in Smellie 1784: 55 it is clearly Kirkcudbrightshire)
Knockando parish, Moray	Near a cairn	NMS FN 4	<i>NMAS</i> 1892: 217 <i>PSAS</i> 1: 190
Skye	?	NMS FN 5	D Wilson (1851: 300) & Smellie (1784: 122) indicate that two were found; only one recorded in <i>NMAS</i> 1892: 217
Hatloch, Peeblesshire	Near a cairn	NMS FN 12	<i>NMAS</i> 1892: 218 D Wilson 1851: 301
Barhapple, Wigtownshire	By causeway to crannog	NMS HT 16	G Wilson 1882
St Andrews, Fife	LBA hoard	NMS unreg	Cowie et al 1991: 53
Orrock, Fife	Part of LBA deposit in cairn – no trace of burial	Lost	Piggott 1948 (interpreted as burial)
Inchinnan parish, Renfrewshire	In a cairn	Lost	Ure 1793: 219–20
Nithsdale, Dumfriesshire	Two separate finds from mosses	Lost	<i>Scots Magazine</i> vol xxviii, June 1766: 299
An Dunan, Lewis	Against internal face of building wall	Stornoway Museum, Lewis	This article

status, switching in the later Iron Age to a focus on personal material culture (Armit 1997a: 252–3; Sharples 2003). This broad trend is indeed visible, but is too binary a division when the detail is considered. From the last couple of centuries BC onwards, there is an upswing in personal material objects such as pins and beads in bronze, bone, glass or, as here, shale; these presumably reflect an increasing concern with signalling an individual's identity, whether that be age, sex, wealth, social role, marriage status, group adherence, or some other facet (Hunter 2007: 289). Finds such as this bangle reflect much broader trends in the later Iron Age (in southern British terms) towards emphasising personal identity (eg Hill 1997).

The final point worth considering is why such an armlet should survive intact, as intact

bangles are very much the exception rather than the rule. Several are known from Norse-period burials (Hunter 2008). There are also apparently Bronze Age examples in graves, although the records here are poor. From Queen Mary's Cairn, near East Kilbride, an armlet appears to have been found with some cinerary urns, although the record is confused by deposit(s) of Iron Age metalwork in the cairn; another is recorded along with four skeletons in a cairn in Logie parish, Angus, which also produced an urn with a cremation (Ure 1793; *Old Statistical Account* 9, 1793: 51–2; Wilson 1851: 300). One from Carriestane, Cumbernauld, has been claimed as Iron Age (Whimster 1981: 412), but the surviving record states only it came from a cist (*PSAS* 5 (1862–4): 127), and there is no firm basis for taking it as Iron Age. Whimster's



ILLUS 24 Selected coarse stone tools (Photo: National Museum of Scotland)

identification presumably rests on the bangle being Iron Age, but there are definite Early Bronze Age examples, eg a burial with a beaker and a shale bangle from Redlands, Northants (Ambers & Bowman 1998: 419–20).

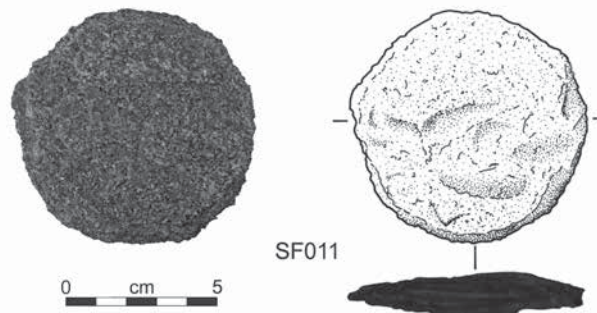
However, there are no grounds for connecting the An Dunan example with a formal burial. Of more interest are other finds of intact armlets (Table 4), and those where a date can be suggested are of Late Bronze Age – Iron Age date. The number that come from mosses or in the vicinity of cairns is notable, and suggests they are likely to be votive deposits in what were seen as liminal, sacred places; the Barhapple find could be interpreted as a boundary deposit on the edge of the site. The examples from St Andrews and Orrock differ because they are a component of a larger hoard, but they too are likely to be votive. Previous work on Iron Age votive deposits (Hunter 1997) has focused on the quality end of the metalwork range, but it is clear that there is a spectrum of offerings, especially of small personal items. Of particular relevance is the discovery of intact glass bangles from Flanders Moss, Stirlingshire, and inserted in an earlier burial at Bogheads, Aberdeenshire (Wilson 1851: 301). There are also finds of pins and Roman brooches from plausibly votive contexts (eg ring-headed pins from peat at Sasaig, Skye;

Carsphairn, Kirkcudbrightshire and Eignaig, Inverness-shire (MacGregor 1976: 266; *PSAS* 46 (1911–12): 179); for Roman brooches see discussion in Hunter 1996: 117–18).

This strongly suggests that the An Dunan bangle is likely to be a votive deposit of some form. Given its context, it may be an offering connected with the life of the building, in its construction or abandonment; as an import, it would have been an offering of some value.

Cobble tools: source, function and wear
(illus 24)

Cobble tools, displaying a limited range of wear, dominate the coarse stone assemblage. All of the tools have been manufactured from water-worn beach cobbles with no modification or preparation prior to use. The prevalence of quartzofeldspathic and gneiss is a reflection of locally available stone. However, as An Dunan is surrounded by salt marsh, some effort would have been required to bring the cobbles to the site compared to Gob Eirer, which has nearby resources (McLaren 2011). These cobble tools were everyday implements and are commonplace finds on later prehistoric sites, such as Eilean Olabhat (Jackson 2008: 93), Sollas, North Uist (Campbell 1991: 164), A'Cheardach Bheag and A'Cheardach Mhor, South Uist (Fairhurst 1971: 100; Young &



ILLUS 25 Mica-schist stone disc, probable pot lid (Photo: National Museum of Scotland)

Richardson 1959: 164). Use as grinders and pounders, indicated by abrasion and surface pitting, are most common but at least one stained smoother, from use in leatherworking, is also present. Both pounders and grinders are likely to have been used in a range of tasks; pounders for preparing temper and clay for pottery, breaking up pigments, or dehusking grain; grinders for food processing and grinding pigments. Equal quantities of single-function tools, with only one type of wear present (eg abrasion) and combination tools, with evidence of more than one wear-type (eg abrasion and smoothing) are represented. The wear patterns are generally well-defined. Most have well-developed faceted wear, suggesting extended or concentrated use (such as SF006 and SF023). Two cobbles (SF135 and SF268) have restricted wear, implying short-term, perhaps single use.

Other stone tools

Also present is a single flaked stone disc, produced from mica-schist, likely to have functioned as a pot lid (illus 25). The edges of the disc have been bifacially flaked to create the circular shape and a rough attempt to thin the stone has been made on both faces. No attempt to smooth or finish the edge or faces appears to have been made, leaving the surfaces uneven. Small quantities of flaked stone discs and pot lids are a typical component of later prehistoric coarse stone assemblages in Northern and Western Scotland, such as those from Foshigarry and Sollas, North Uist (Beveridge & Callander 1931: 32; Campbell 1991: 164), and Dun Cuier, Barra (Young 1956: 324).

A single abraded water-worn clast of grey/brown rhyolitic pumice could have been used for a range of tasks. The specific functions are unknown, but could include the processing of hides and the abrasion and smoothing of various materials – including wood, bone and stone. A small quantity of abraded pumice was also recovered from Gob Eirer, Uig (McLaren 2011). Interestingly, in terms of colour and

texture, the type of pumice from this site is quite distinct from that gathered and used at Gob Eirer. The pumice from An Dunan is ash-grey in colour, soft and porous in texture, whereas the fragments recovered at Gob Eirer are a dark-brown/black, highly vesicular, hard basaltic pumice. The colour, in particular, suggests that this is rhyolitic pumice which could have been produced by a different eruption to the fragments identified at Gob Eirer, Uig. The pumice is likely to have floated to the western shores of Scotland from Iceland (Newton 2000: 405–6).

In contrast to the stone assemblage from Gob Eirer, no anvil stones or working surfaces were identified that could be associated with lithic production (Ballin, this paper). The general lack of fire-cracked cobbles also distinguishes the An Dunan assemblage from that of Gob Eirer, although two unworked cobbles (SF049 and SF218) did display heat damage from possible use as pot boilers. Most notable is the absence of grain processing tools, such as quern stones and rubbers, and the lack of whetstones, although the assemblage size is too small to draw wide-ranging conclusions.

Contextual analysis and phasing

The stone tools are most abundant in Phases 1 and 4 associated with the earlier sub-rectangular dry stone structure (Table 3). The Phase 1 tools comprise both single-function and combination cobble tools (SF177, SF290, SF161, SF281), whereas the Phase 4 finds consist of the shale armlet (SF018), flaked stone disc (SF011) and two combination cobble tools (SF006 and SF023). None of the coarse stone tools are chronologically distinctive but are consistent with the Iron Age radiocarbon dates derived from Phases 2 to 4.

VITRIFIED MATERIAL

Dawn McLaren

Minute quantities of vitrified material (less than 0.5g) were recovered during soil sample

processing from An Dunan. These include tiny undiagnostic angular fragments of magnetic vitrified material (less than 5mm in length), including a small quantity of globular prill, as well as two small amorphous crumbs of corroded iron from the Iron Age levels. Also present were flecks of iron pan. In the absence of any bulk ferrous metal slags and diagnostic micro-debris such as flake or spherical hammerscale, it is not possible to confirm the process by which this residue was produced and there is no evidence of in situ metalworking at the site.

SYNTHESIS OF MATERIAL CULTURE

Dawn McLaren and Fraser Hunter

Despite the restricted quantity and limited range of artefacts recovered during the excavations at An Dunan, several notable finds provide valuable insights into life at the site during later prehistory. Much of the assemblage consists of prosaic, everyday items such as handmade pottery vessels for food consumption and storage, struck quartz, and stone tools used for a range of tasks and produced from locally sourced raw materials. Yet two exceptional objects are present: a rare, intact penannular shale armlet and a fragment of an amber bead. Neither material is native to the area, demonstrating the wide network of contacts available to the people of An Dunan during the later prehistoric period.

With these two exceptions, the assemblage from An Dunan is dominated by the accoutrements of everyday life: undecorated and decorated ceramic vessels for storing, cooking and consuming foodstuffs and a small quantity of stone tools, many of which display multifunctional wear. These tools are likely to have been used for a range of tasks, such as preparing and processing food, crushing pigments or clay for potting and a single smoother provides evidence for hide processing. One flaked stone item, a small

pot lid produced from a thin slab of gneiss, is likely to have plugged the mouth of a ceramic or organic vessel during storage. The majority of these stone tools have been produced from water-worn cobbles sourced from the local beach.

A substantial assemblage of struck quartz was recovered during excavation but most of this material is debitage or waste. It is unclear exactly how or why such large quantities of quartz chips were produced, but although some of it may have been waste from tool manufacture, most probably was not. Instead, this may be related to the crushing of quartz for inclusion as temper within ceramic vessels, as seen in the large quartz inclusions in the pottery from the site. Alternatively, the quartz may have been processed to scatter as a way of emphasising or accentuating the site, as is observed on later prehistoric monuments such as that at Midross, Loch Lomond (Ballin forthcoming). No concentrations or clusters of crushed quartz were observed, suggesting that the former interpretation is more likely. The frequency of pitted wear from pounding observed on many of the stone cobble tools suggests that they could have been used for quartz working.

In contrast to the quartz assemblage from Gob Eirer, Uig, which primarily used water-worn beach cobbles (Ballin 2011), the raw material identified at An Dunan is very fine-grained plates of quartz, quarried from a nearby outcrop. This material has poor flaking qualities and in most cases appears to have been crushed rather than flaked. Despite this, a small number of tools had been produced, including cutting, piercing and scraping implements, possibly for use in hide-processing, and a fire-flint for fire-making. Most of these tools appear to be informal, expediently produced objects, with the exception of one very fine-grained quartz scraper that may be of a much earlier date.

In addition to the coarse stone and struck lithics, a substantial quantity of fragmentary and abraded pottery was recovered from each

of the phases, dominated by flat-based, globular jars with plain or rounded rims, the fabric often tempered with quartz. Most of the pottery is undecorated with smoothed or wiped surfaces, but a small quantity (approximately 1%) has incised, impressed and applied decoration including applied roundels and cordons. In terms of shape, form and decoration, the pottery from An Dunan finds ready parallels from several Iron Age settlement sites in the Western Isles, reflecting the wider pottery tradition. In general, the form and fabric of the pottery from An Dunan was fairly homogenous, indicating that the production of ceramic vessels changed very little during the life of the site.

The two ornaments from An Dunan, the amber bead and the shale armlet, are significant finds, both for their rarity in Iron Age contexts and also for their production from raw materials exotic to the area. The amber is likely to have originated from the Baltic, reaching Uig in a number of stages and having passed through several hands on the way to An Dunan. Similarly the oil-shale, used to produce the armlet, has come from some distance away. At present it is not possible to provenance sources of shale with any certainty, but this particular type of material is known from Brora in Sutherland, Skye, Raasay, central Scotland and farther afield. Such exotic materials were rare and not readily accessible to all.

The use of shale and other black stones for the production of armlets is a long-lived tradition stretching from the Early Bronze Age into the Norse period. Yet pennanular armlets like the one from An Dunan are a rare form. In this case, the asymmetry of the armlet may well be a result of modification and re-shaping of a damaged circular armlet rather than a deliberate design choice. Only six other shale and shale-type ornaments are known from later prehistoric contexts in the Western Isles. These would have been considered objects of some significance, not just for their exotic material but also for their rarity. The procurement of such ornaments displays a concern for

decoration of the body and the use of jewellery as an expression of identity and status, and is reflective of much broader trends towards emphasising personal identity and individuality (eg Hill 1997).

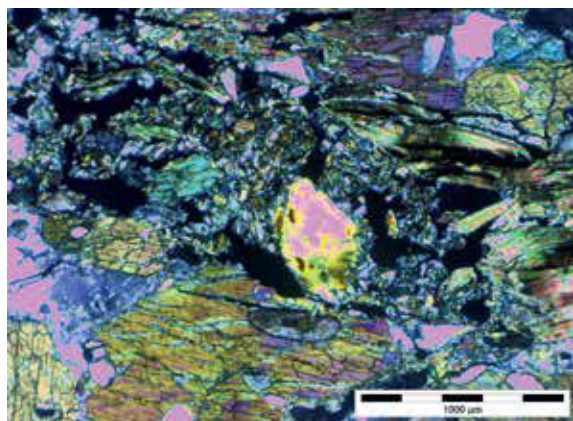
ENVIRONMENTAL ARCHAEOLOGY

Bulk samples were taken from the in situ archaeological contexts, using a total sampling strategy (Jones 1991), to retrieve ecofacts for palaeoenvironmental and palaeoeconomic reconstruction, principally carbonized plant macrofossils and calcined bone fragments observed during excavation. Routine sedimentary tests were undertaken to analyse ecofact preservation and taphonomy, and bulk samples to retrieve ecofact remains (see Methods above). Two column samples were also taken through the Iron Age ash mound and structural fills for soil micromorphological analysis. The main research aims of the environmental analysis were to assess the generic site formation processes and to identify and interpret the ecofactual material from the site.

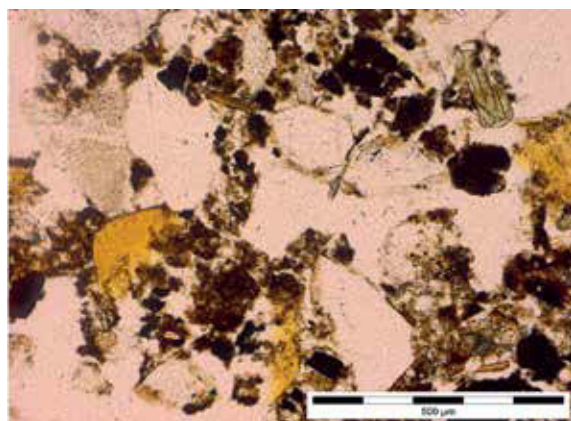
SOIL MICROMORPHOLOGY

Laura Hamlet

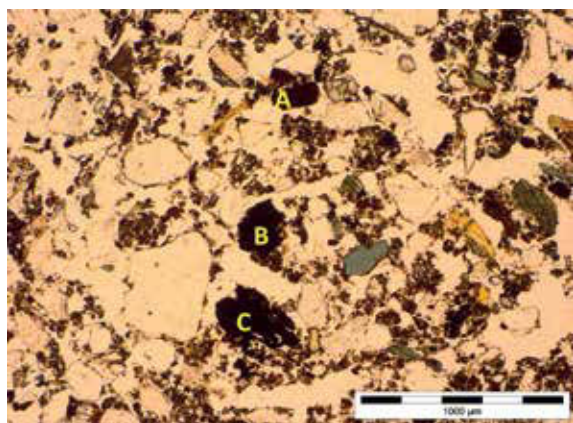
Five Kubiëna tins were recovered from the east facing section in trench 1 (illus 13 – column samples 1A and 1B), which cut a section through the structural fills containing three phases of occupation; Phases 1, 4 and 5. Of these five tins, Tin 3 from column sample 1A was selected for analysis, as it contained Phase 1 deposits. Seven Kubiëna tins were recovered from the south facing section through the ash mound deposits (illus 13 – column samples 2A and 2B). Tins 2 and 3 from column sample 2B were selected for analysis, as they contained multiple ash and clay layers. Thin section micromorphology can illustrate the processes involved in deposition and pedogenesis and any changes that occurred



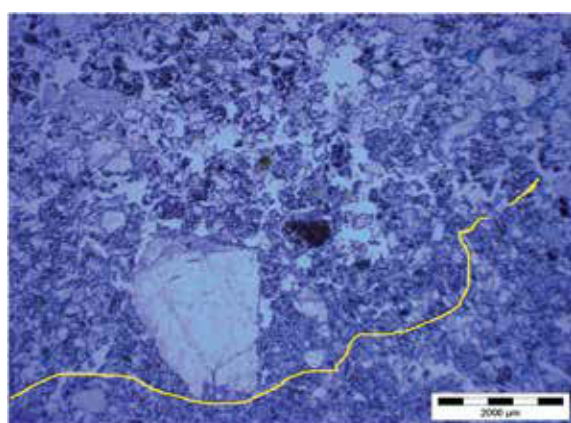
(a) Heavily weathered rock fragment



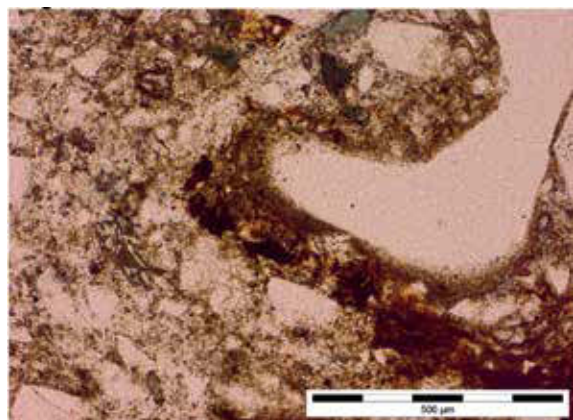
(b) Heavily weathered biotite and quartz minerals



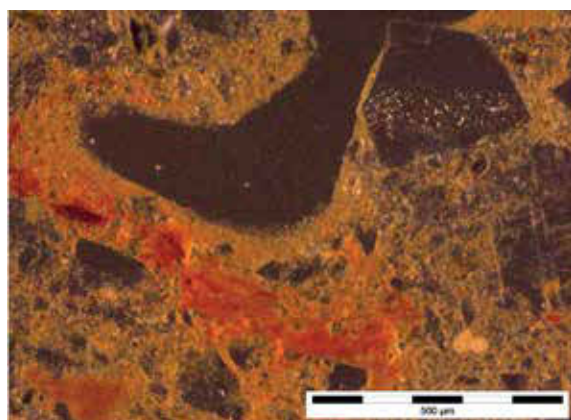
(c) Pseudomorphic Fe/Mn impregnation of organic tissue (A), Anorthic Fe/Mn nodules (B) and carbonized organic tissue (C)



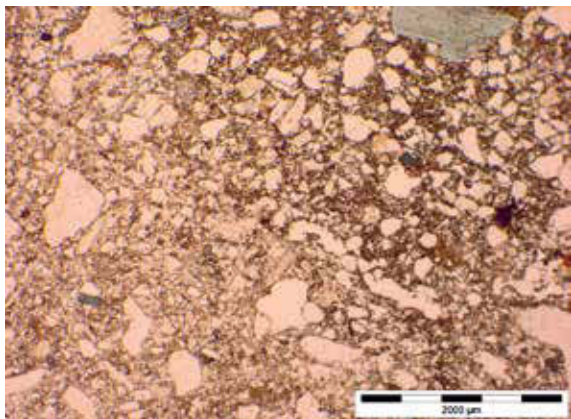
(d) The boundary between microstratigraphic units A and B



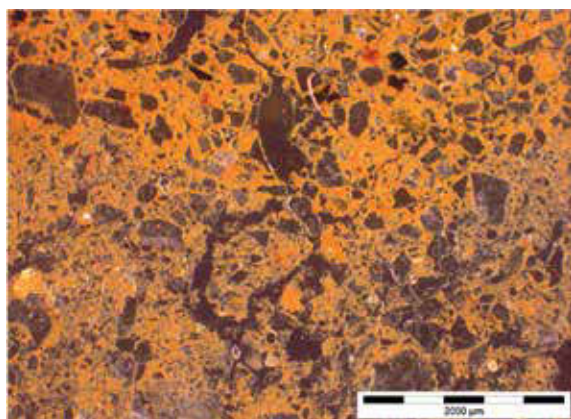
(e) Dusty clay coating of void space in unit B containing sand, silt and clay-sized constituents and Fe/Mn accumulation



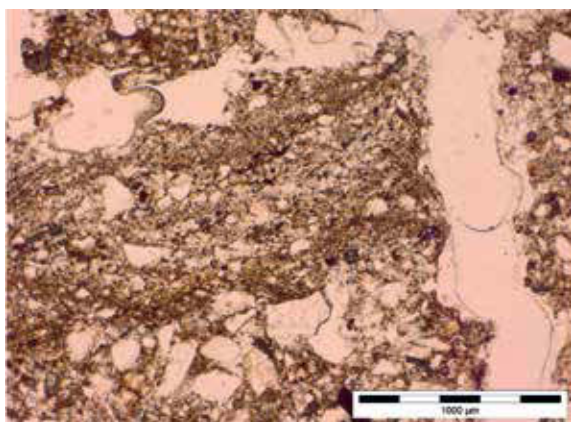
(f) Highlighting Fe/Mn accumulation



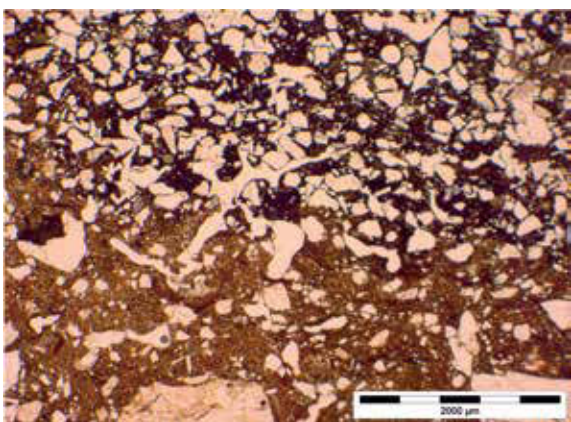
(g) Boundary between microstratigraphic units A and B (PPL)



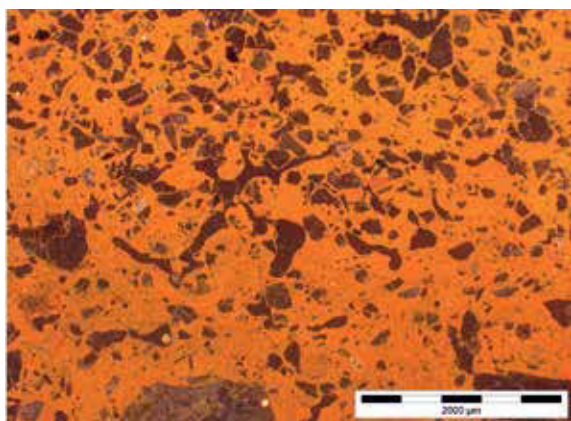
(h) Boundary between microstratigraphic units A and B (OIL)



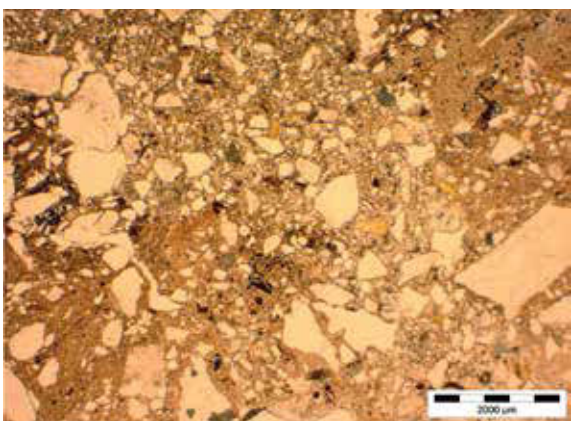
(i) Compound infill pedofeature, unit B



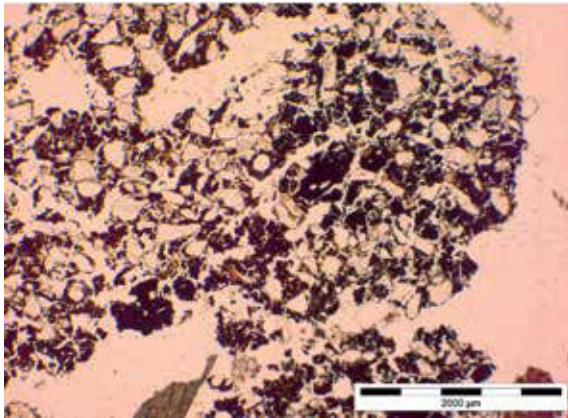
(j) Microstratigraphic unit C, discrete black amorphous inclusion (PPL)



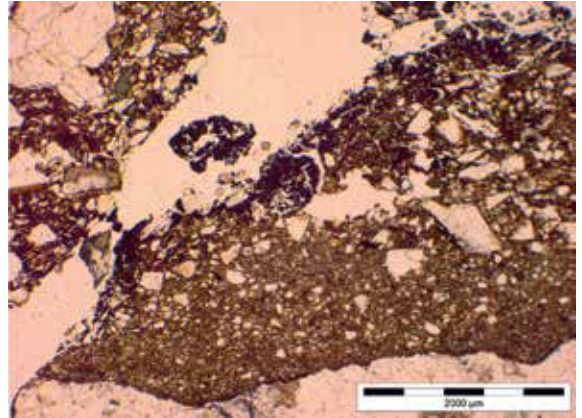
(k) Microstratigraphic unit C, discrete black amorphous inclusion (OIL)



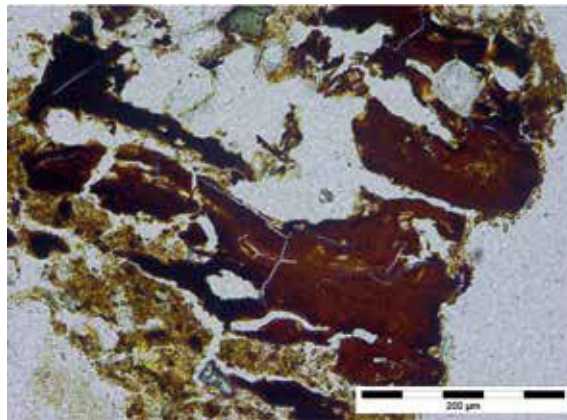
(l) Boundary between microstratigraphic units A and B



(m) Three examples of groundmass present in unit C. *Left* – charred/burned sandy material, *centre* – Fe/Mn accumulated turf, *right* – sandy soil



(n) Unit C – disturbed turf fragment. Note the formation process upon the large mineral grain (*bottom*) which comprises silt and clay coating followed by more sandy material and finally Fe/Mn accumulation



(o) Possible burnt bone in unit C

thereafter, which may include environmental, climatic or anthropogenically triggered events. A set of specific research questions for the soil micromorphological analysis were proposed by the excavators:

1. Was there evidence for in situ burning?
2. Was there any evidence for human cremation?
3. What kind of fuel was used?
4. How long did deposits take to accumulate?
5. Are there stratigraphic discontinuities or evidence of flooding or erosion?

1A Tin 3 (Table 5A)

In this section, there are three microstratigraphic units labelled A, B and C, corresponding to contexts identified in the field as clay floors 065 and 063 and deposit 036 respectively. Boundaries between units are diffuse indicating homogenisation of contexts as they develop over a long period of time or are reworked.

Unit A (C065) Clay foundation layer

This unit represents the clay foundation layer of the initial structure. In this section, this

context was differentiated from the rest of the slide by a lack of anthropogenic inclusions; the field description is validated by the presence of shattered and weathered minerals (quartz/feldspar 15–30%, mica/biotite/hornblende/olivine 1–5% and rock fragments 5–15%) ranging from silt sized (2–20 μ m) to fine gravel (>2000 μ m). These components, together with stipple-speckled micro-crystallitic birefringent fabric, are typical of initial soil genesis from the weathering and fragmentation of parent material (illus 26a). There are occasional silty infill pedofeatures (2–5%), which indicate low-energy, down-profile movement of fine material. The trace amounts of both fungal tissue and red amorphous material (>1% each) are also related to this movement. The rare (1–2%) examples of iron accumulation indicating oxidation/reduction suggest the context underwent periods of wetting and drying. There is a heavily weathered rock fragment resting over unit A, which is almost continuous across the slide. This may suggest the sample included a larger decaying piece of rock which has been lapped down during the thin section manufacturing process; this could represent a stony layer which has been deliberately deposited in context 063.

Unit B (C063) Clay floor

This unit represents a fine yellow compact clay, overlying context 065 and containing stones. This is interpreted as a possible clay floor related to Phase 1. In thin section, the microstructure appears loose, composed of aggregated organo-mineral material and heavily weathered, moderately sorted, fine to medium grained sand-sized minerals, with occasional coarse sand-sized grains (illus 26b). The aggregation of fine material indicates the formation of blocky peds on the micro-scale, indicating that the horizon was fairly dry. Fe/Mn accumulation pedofeatures are suggestive of a wet environment; however, in this situation, plant tissues (1–5%) have become ferruginous/manganiferous pseudomorphs and there are many anorthic Fe/Mn nodules which are inherited features and were not formed in situ.

This indicates that the constituents within this unit have been imported into the context from an area where soil moisture content is higher (illus 26c). The anthropogenic inclusions contribute less than 11% of the total unit (charcoal 1–5%, burnt peat 1–5%, turf fragments and burned bone >1% each), which is lower than would be expected of an occupation surface (Simpson et al 1999) but does indicate anthropogenic material deposited in the sediment. The unit exhibits cracks and chambers that may be explained as voids where rock fragments have been disturbed, affecting the degree of compaction of the microstructure. The diffuse, homogenised nature of the boundary between microstratigraphic units A and B (illus 26d) indicates a slow but sustained period of accumulation and continued weathering of rock fragments.

Unit C (C036) Structural fill

This unit represents context 036, a structural fill deposit in Phase 4. The boundary between units B and C is almost completely indiscernible in thin section, so the stratigraphic distinction was based solely on an increase and diversification of anthropogenic input. The microstructure is broken up by large voids at the top of this unit, probably caused by the removal of rock fragments. The anthropogenic inclusions contribute up to 40% of the unit and are a mix of charcoal (some of which can be identified as wood charcoal by morphology after Umbanhower & McGrath 1998), burnt peat (<1%), turf fragments (<1%), unburned bone (<1%) and bone burned at high intensities (1–5%) (Hanson & Cain 2007). This is evenly distributed amongst well-sorted coarse mineral grains related to the local geology (up to 40% coarse minerals comprising quartz/feldspar 15–30%, Muscovite group 1–5% and rock fragments 1–5%).

2B Tin 3 (Table 5B)

This sample was taken to investigate the formation processes of the basal clay layer (185), a mixed clay and ash layer (180) and a definite peat ash layer (167) in the ash mound.

TABLE 5A
Thin section description table for Sample 1A Tin 3

Sample ID	Context(s)	Microstratigraphic unit	Coarse mineral material (>63µm)						Fine mineral material (<63µm)	Coarse organic material (>63µm)			Fine organic material (>63µm)		
			Quartz/Feldspar	Muscovite/Biotite/Hornblend/Olivine	Granite/Gneiss/Pegmatite fragments	Phytoliths	Diatoms	NATURE OF FINE MINERAL MATERIAL (PPL)	GROUND MASS b FABRIC (XPL)	Plant tissue (strong/very strong decomposition)	Charcoal and carbonized organic remains	Plectenchymatic tissue/sclerotium	Yellow amorphous	Black amorphous, including punctuations	Amorphous (reddish-brown)
1A Tin 3	065	A	•• •	•	••			Light brown organo-mineral	Stipple speckled micro crystallitic			t			t
AD 97	063	B	•• ••	•	••	t		Mid- to dark-brown organo-mineral	Stipple speckled micro crystallitic	•	•	t	t	••	t
	036	C	•• •	•	•	t		Mid- to dark-brown organo-mineral	Stipple speckled micro crystallitic		•••	t		•	t

Frequency class refers to the appropriate area of section

t = trace (<1%) • = very few (1–5%) •• = few (5–15%) ••• = frequent (15–30%) •••• = very frequent (30–50%) ••••• = dominant (>50%)

Frequency class for pedofeatures

t = trace (<1%) ◇ = rare (1–2%) ◇◇ = occasional (2–5%) ◇◇◇ = many (5–10%)

TABLE 5A (*continued*)
Thin section description table for Sample 1A Tin 3

<i>Other inclusions</i>					<i>Structure</i>					<i>Pedofeatures</i>				
Burnt Peat	Turf fragments	Bone (burnt)	Ash	Bone (unburnt)	Microstructure	Sorting	Coarse mineral arrangement	C/F ratio	Limpid clay coating/ capping	Dusty clay coating/ capping	Silty clay infilling	Fe/Mn accumulation		
												Pseudomorphs	Anorthic nodules	
					Intergrain micro-aggregate	Poor	Random	Enaulic			◇◇	◇		
•	t	t			Intergrain micro-aggregate with cracks and chambers	Moderate	Random	Enaulic	◇	◇		◇◇◇	◇◇◇	
t	t	•	t	t	Intergrain micro-aggregate with cracks and chambers	Well	Random	Enaulic	◇			t		

TABLE 5B
Thin section description table for Sample 2B Tin 3

			Coarse mineral material (>63μm)			Fine mineral material (<63μm)			Coarse organic material (>63μm)			Fine organic material (>63μm)			
Sample ID	Context(s)	Microstratigraphic unit	Quartz/Feldspar	Muscovite/Biotite/Hornblend/Olivine	Granite/Gneiss/Pegmatite fragments	Phytoliths	Diatoms	NATURE OF FINE MINERAL MATERIAL (PPL)	GROUND MASS b FABRIC (XPL)	Plant tissue (strong/very strong decomposition)	Charcoal and carbonized organic remains	Plectenchymatic tissue/sclerotium	Yellow amorphous	Black amorphous, including punctuations	Amorphous (reddish-brown)
2B Tin 3 AD 97	185	A	••	•	••			Brown organo-mineral	Stipple speckled micro-crystallitic				t		
	083	B	•••	•	••			Reddish-brown organo-mineral	Stipple speckled micro-crystallitic			t	t	t	
	167	C	••	•	••			Reddish-brown organo-mineral	Stipple speckled micro-crystallitic					•	

Frequency class refers to the appropriate area of section

t = trace (<1%) • = very few (1–5%) •• = few (5–15%) ••• = frequent (15–30%) •••• = very frequent (30–50%) ••••• = dominant (>50%)

Frequency class for pedofeatures

t = trace (<1%) ◇ = rare (1–2%) ◇◇ = occasional (2–5%) ◇◇◇ = many (5–10%)

SSP = Single Space Porphyritic DSP = Double Spaced Porphyritic

TABLE 5B (continued)

Thin section description table for Sample 2B Tin 3

<i>Other Inclusions</i>					<i>Structure</i>			<i>Pedofeatures</i>						
Burnt peat	Turf fragments	Bone (burnt)	Ash	Bone (unburnt)	Microstructure	Sorting	Coarse mineral arrangement	C/F ratio	Fe/Mn nodule	Fe/Mn accumulation	Link capping	Dusty clay infilling	Dusty clay capping	Limpid clay infill/coating
					Intergrain channels	Poor	Random	SSP	◇	◇◇		◇		
					Intergrain micro-aggregate	Moderate	Random	SSP		◇◇◇+	◇	◇◇◇		
					Intergrain with channels	Moderate	Random	SSP	t	◇◇◇+		◇◇◇		◇

TABLE 5C
Thin section description for sample 2B Tin 2

Sample ID	Context(s)	Microstratigraphic unit	Coarse mineral material (>63µm)					Fine mineral material (<63µm)		Coarse organic material (>63µm)			Fine organic material (>63µm)		
			Quartz/Feldspar	Muscovite/Biotite/ Hornblende/Olivine	Granite/Gneiss/Pegmatite Fragments	Silt Stone	Diatoms	NATURE OF FINE MINERAL MATERIAL (PPL)	GROUND MASS b FABRIC (XPL)	Plant Tissue (strong/very strong decomposition)	Charcoal and carbonised organic remains	Plectenchymatic tissue/ sclerotium	Yellow amorphous	Black amorphous, including punctuations	Amorphous (reddish brown)
2B Tin 2 AD 97	159	A1	••••	t				Dark-brown organo-mineral	Stipple speckled micro-crystallitic	•	••		t	•	t
		A2	••	•	••	•	t	Mid-reddish-brown organo-mineral	Crystallitic/poro and grano-striated	•	•••	t	t	••	
		A3	••	•				Dark-brown organo-mineral	Stipple speckled micro-crystallitic						
	069	B	••••	•	•••			Greyish-brown organo-mineral	Stipple speckled micro-crystallitic		t	t	t	•	
	067	C	•••	•	••			Mid-brown organo-mineral	Stipple speckled micro-crystallitic		•••		t	t	t

Frequency class refers to the appropriate area of section

t = trace (<1%) • = very few (1–5%) •• = few (5–15%) ••• frequent (15–30%) •••• = very frequent (30–50%) ••••• = dominant (>50%)

Frequency class for pedofeatures

t = trace (<1%) ◇ = rare (1–2%) ◇◇ = occasional (2–5%) ◇◇◇ = many (5–10%)

SSP = Single Space Phorphyric DSP = Double Spaced Phorphyric R = random

TABLE 5C (*continued*)
Thin section description table for Sample 2B Tin 2

<i>Other inclusions</i>					<i>Structure</i>		<i>Pedofeatures</i>					
Burnt peat	Turf fragments	Bone (burnt)	Calcitic ashy material	Bone (unburnt)	Microstructure	Sorting	Coarse mineral arrangement	C/F ratio	Fe/Mn accumulation	Pseudomorphic Fe/Mn nodule	Silty clay infilling	Sandy infill
					Intergrain channels	Moderate	Banded	SSP	◇◇◇			
	t	t	••		Intergrain with chambers and channels	Moderate	R	DSP	◇◇			◇
					Intergrain	Moderate	Banded	SSP	◇◇◇			
	•				Intergrain with chambers and channels	Poor	R	SSP	◇	◇		
	••	t			Complex	Poor	R	Enaulic/ Gefuric	◇◇◇	◇		

In thin section, three microstratigraphic units are visible, labelled A, B and C.

Unit A (C185) Basal clay layer

This unit represents context 185, a pink/red clay-like deposit. The lower portion of unit A contains large rock fragments, these contribute 15–30% of the unit. They are heavily weathered and surrounded by very fine to coarse, sand-sized minerals and stipple speckled b-fabric, indicating the fragmentation of parent material. Unit A is very sandy with quartz/feldspar coarse minerals contributing 15–30%. Fe/Mn accumulation and nodules contribute 2–5% and 1–2% of the unit respectively (illus 26e and 26f) and these are related both to mineral fragmentation/alteration and translocation via down-profile movement of water. Dusty clay infilling and coating of void space and minerals, indicates low-energy, down-profile movement of fine material related to Fe/Mn accumulation, indicative of water-borne movement.

Unit B (C180) Mixed clay and ash layer

This unit relates to context 180, described in the field as a mixed clay and ash layer. In thin section, the boundary between units A and B is indicated by a change in colouration of fine material and an increase in fine and medium sand-sized coarse mineral grains (quartz/feldspar 30–50%, Muscovite/biotite group 1–5%), signifying a shift in formation processes (illus 26g and 26h). The boundary is irregular and wavy, with unit B infilling unit A. Within unit B there are many infilling pedofeatures (5–10%), which occur as silty or fine sandy compound layers infilling pore spaces (illus 26i). This demonstrates several phases of very low-energy, down-profile movement of fine material that fluctuated sporadically. The colouration of the fine material in unit B is dominantly reddish-brown related to Fe/Mn staining. However, there are discrete areas which exhibit no colouration and appear grey, a phenomenon that can be attributed to oxidation/reduction and the translocation of Fe/Mn as it

accumulates elsewhere in the profile. There is a trace (<1%) of possible charcoal, which appears as amorphous black fine material and a high occurrence of infilling and Fe/Mn accumulation (>5–10%) pedofeatures.

Unit C (C167) Definite peat ash layer

This microstratigraphic unit represents context 167, a deposit of compact orange peat ash, identified in the field as in situ burning. In thin section, normal indicators of in situ burning, such as remnants of ash, soil crusts, vesicular pores and fused soil particles, are not present. Also, there is no mineral magnetic enhancement in the underlying clay layers (180 and 185), that would be expected if this layer was burnt in situ. The matrix is reddened, which may have resulted from soil oxidation through heating, though individual coarse minerals are not rubified, which would indicate coarse and fine material mixed to form this context. There are discrete inclusions of black amorphous material (1–2%) containing coarse mineral grains that exhibit similar red hues in OIL to the general fine organo-mineral material present (illus 26j and 26k). The pore spaces within these discrete units are filled by generic fine material, demonstrating that they became incorporated during the continued development of the context.

2B Tin 2 (Table 5C)

In thin section, three main microstratigraphic units were identified and labelled A, B and C; these relate to peat ash deposits in the body of the ash mound (contexts 083, 069 and 067 respectively).

Unit A (C083) Peat ash deposit

This unit represents context 083, identified in the field as a peat ash layer in the ash mound. Within unit A, a compact iron pan was identified at the bottom of the unit and a second weak iron pan at the top of the unit. The lower iron pan was just ‘clipped’ at the bottom of the slide so it is difficult to hypothesise the formation process,

but it does contain a substantially higher ratio of coarse mineral material (up to 51%) than the rest of unit A, it is very compact and contains debris such as carbonized plant material (5–15%). Gé et al (1993), identified three zones that are widely used as signatures of occupational deposits (eg Davidson et al 1992; Simpson et al 1999; Hutson & Terry 2006); the ‘passive zone’ where material has been trampled and compacted but remains unaltered by subsequent activity, the ‘active zone’ where domestic waste materials accumulate (such as bone, charcoal and shell) and the ‘reactive zone’, usually described as a disaggregated layer containing both materials from the underlying ‘passive zone’ and fine material from the ‘active zone’ which has been incorporated into the voids (Hutson & Terry 2006).

Unit A is a compacted layer of organo-mineral material, containing coarse organic constituents such as quartz (5–15%), rock fragments (5–15%) and accessory minerals (biotite, chlorite, mica, hornblende 1–5%). It contains charcoal and carbonized organic material (15–30%), turf fragments (<1%), burnt bone (<1%) and calcitic ashy material (5–15%), demonstrating it was an ‘active zone’. The upper iron pan has formed over a layer of heavily weathered, iron-impregnated silt stone, exhibiting banding of coarse minerals. The boundary between units A and B is distinct and fairly smooth; it incorporates the upper iron pan in unit A and is interrupted by sandy infill penetrating unit A from unit B, recorded as a pedofeature contributing 1–2% of the microstructure of the unit (illus 26l).

Unit B (C069) Peat ash deposit

This unit represents context 069, ash mound material from Phase 2. The coarse mineral constituents (quartz/feldspar 30–50%, Muscovite/biotite group 1–5% and rock fragments 15–30%) dominate the unit, they range from fine sand-sized to large rock fragments >8cm. There are black amorphous punctuations (1–5%), which exhibit wood charcoal morphology as described by Umbanhower &

McGrath (1998). The other constituents of the unit are turf fragments (1–5%) and traces of carbonized plant material, yellow amorphous fine material and fungal sclerotium (<1% each) and there are also Fe/Mn accumulation pedofeatures (1–2%).

Unit C (C067) Peat ash layer

This unit represents context 067, an area of burning within the ash mound, containing large amounts of bone that was identified in the field as a possible cremation. In thin section, this context exhibits an enaulic coarse/fine distribution and is highly porous, has complex packing voids and is poorly sorted. The microstructure is complex, in places fine material forms crumb-like aggregates and there are a few (5–15%) turf fragments with porphyric microstructures (illus 26m). Fe/Mn accumulation pedofeatures (5–10%) occur within the less sandy turf fragments and different soil formation processes are visible in some fragments, indicating the unit is constructed of turf from different sources (illus 26n). Carbonized plant material occurs frequently (15–30%) and the morphology of black amorphous punctuations (<1%) suggests that the source of the carbonized material may be wood. Also, Fe/Mn impregnated plant material forms pseudomorphic nodules. There is a trace (<1%) of possible burnt bone (illus 26o) present within a fragment of sandy turf that exhibits an inter-grain microaggregate microstructure. The histology of the bone fragment suggests that it was exposed to low to medium intensity burning (Hanson & Cain 2007). However, the lack of structural features, such as Haversian canals, means this evidence is equivocal. The fine organo-mineral material fills the pore spaces within the bone structure, indicating that the ‘bone’ fragment was buried and then redeposited along with the turf fragment embedded within unit C, rather than burnt in situ.

Summary interpretation

Tin 3 in column sample 1A, taken from the northern end of the structure, sampled

TABLE 6
Summary of the routine soil tests

<i>Sedimentary test (total samples = 126)</i>	<i>Units</i>	<i>Range</i>	<i>Average</i>	<i>Standard deviation</i>
Organic content	%	2.2–52.7	10.9	5.4
pH	SI Units	4.16–7.16	4.98	0.44
χ	10 ⁻⁸ m ³ kg ⁻¹	0.1–33.8	7.3	5.0
χ fd%	%	1.7–13.0	8.1	1.9

a foundation layer (065), a clay floor (063) and a structural fill (036). In thin section, the foundation layer (065) can be interpreted as a pre-occupation natural B/C soil horizon. Low densities of anthropogenic material were present in the clay floor (063), indicative of limited human activity rather than intensive domestic activity. The dry nature of the context suggests two things: firstly that this area of the islet was not inundated by water at any point during this phase of activity, for example during spring high tide; secondly that context 063 was protected from the elements and was therefore probably roofed. The structural fill (036) was shown to contain reworked anthropogenic material, including wood charcoal, burned and unburned bone and turf fragments, mixed with medium to coarse sand.

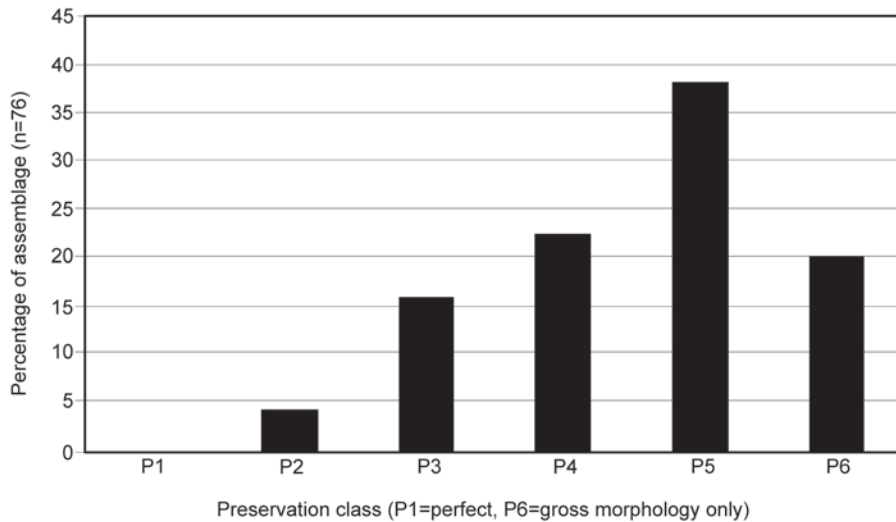
Two tins were selected for analysis of the basal clay layers and ash deposits in the ash mound. Tin 3 in column sample 2B sampled a basal clay layer (185), mixed clay and ash layer (180) and a definite peat ash layer (167). Tin 2 in column sample 2B sampled three discrete peat ash layers (083, 069 and 067). The clay layers in Tin 3 (185 and 180) were not subjected to in situ burning and have evidence for post-depositional downward movement of clays through water-borne processes. The ash layer above these clays (167) was not burnt in situ either. The fuel in the upper ash layers in Tin 2 (083, 069 and 067) was identified in thin section as mixed peat and

wood; again, the burning was not intensive or in situ. For example, the burnt material in context 067 showed evidence of having been imported into its final resting place after being combusted and originated from several sources of turf/peat, wood and burnt plant material. Possible burnt bone exhibited characteristics of low/medium intensity burning, a thermal regime consistent with domestic hearths.

ARCHAEOBOTANICAL AND ZOOARCHAEOLOGICAL RESULTS AND DISCUSSION

The environmental remains were amalgamated into two phased assemblages (Middle Iron Age and medieval) due to the radiocarbon dates recovered from the two main phases of the site. Very few environmental remains were recovered from the medieval phase and so the discussion solely focuses on the Middle Iron Age remains. The archaeobotanical analysis was undertaken as part of doctoral research to produce a regional synthesis on the later prehistoric and historic use of plants in Lewis, from 10 sites of Bronze Age to post-medieval date (Church 2002). A number of research questions were formulated for the archaeobotanical remains from each of these sites including:

1. Is it possible to propose a generic taphonomic model for the origin,



ILLUS 27 Preservation of barley, following preservation classes of Hubbard and al Azm (1990)

preservation and subsequent dispersal of the carbonized plant macrofossils on the site?

2. What materials were used for fuel?
3. Which species of wood and timber were used and how were they procured?
4. Can aspects of arable agriculture be seen in the archaeobotanical record, from the crops grown to the crop-processing procedures employed?
5. What other plants were gathered and for what purpose?

Taphonomy

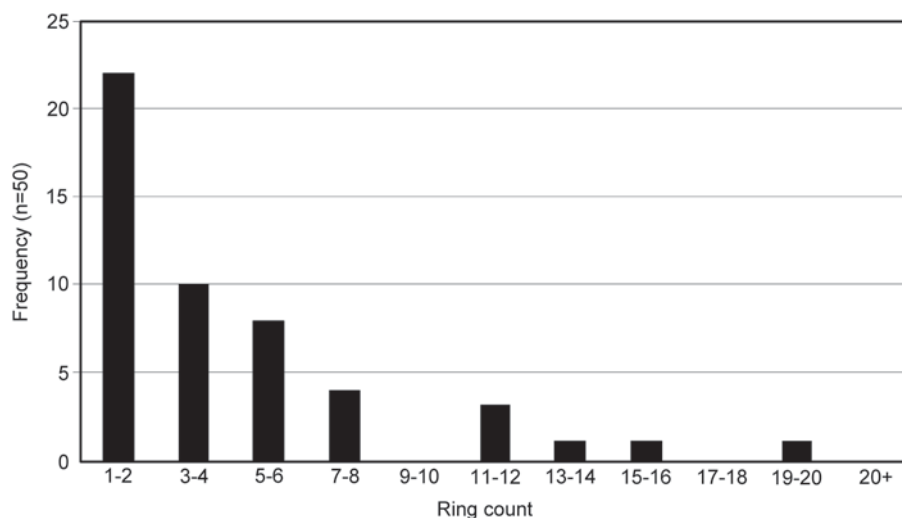
Following standardisation (see Nesbitt et al 2011 for methodology), 10 macrofossil and 42 charcoal samples remained. Mineral magnetic analysis (Table 6) and soil micromorphology (Table 5 and illus 26) suggested that much of the charred material stemmed from the spread of ash from the elaborate ash mound in the centre of the structure. Indeed, the very high magnetic susceptibilities measured from this material and generic occupation levels suggested a significant component of the

site's stratigraphy was ash derived. This was confirmed by the soil micromorphological profiles through the ash mound and occupation material (see above). The mineral magnetic enhancement and archaeobotanical remains (Tables 6 and 7) indicate that well-humified peat was the main fuel. Much of the plant material incorporated into this ash was likely to have been carbonized at comparatively high temperatures and therefore would have been completely ashed (cf Boardman & Jones 1990), and the archaeobotanical material remaining was generally very poorly preserved (illus 27). The acidic pH of the sediments across the site (Table 6) meant that no unburnt bone or shell was recovered. The calcined zooarchaeological remains are likely to represent accidental food waste incorporated into the ash and carried on to the site, presumably stemming from domestic hearths.

Zooarchaeological remains

Louisa Gidney and Emily Blake

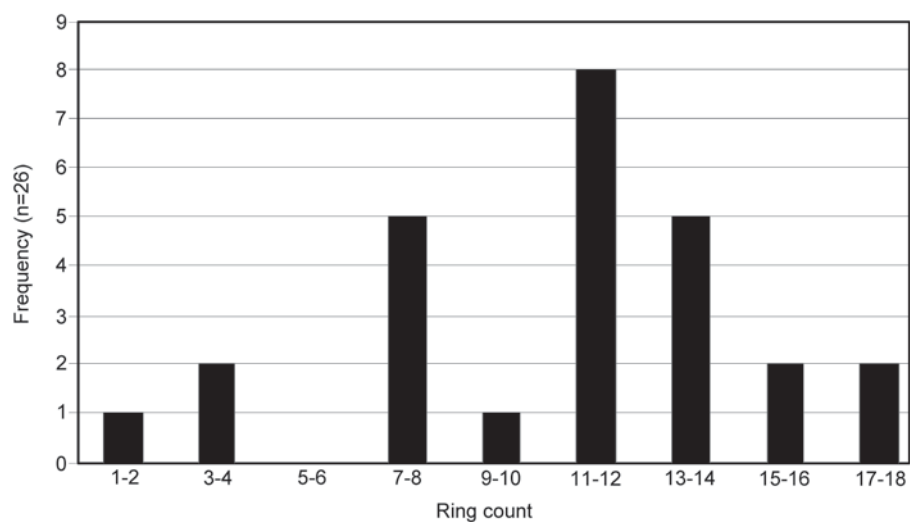
Hundreds of burnt and calcined bone fragments were recovered from the bulk samples but most



ILLUS 28 Ring counts for charcoal fragments, excluding heather

of these were too small to be identified. Nearly all the identified bones (Table 8) were calcined, with most of the bones derived from various elements of sheep/goat (n=24). The remaining bones included a cattle-sized vertebra, a bird

bone, a fragment of limpet shell and four fish bones (two herring, one cod family). A single incisor fragment could have derived from a human but this is likely to represent accidental tooth loss, rather than funerary remains.



ILLUS 29 Ring counts for Ling heather fragments

TABLE 7
Archaeobotanical remains

<i>Volume for 10 macro samples (litres)</i>		216
<i>Arable</i>	<i>Common name</i>	
<i>Hordeum</i>		
H. sp	Barley grain	6
H. hulled	Hulled barley grain	47
H. hulled symmetric	Straight hulled barley grain	6
H. hulled asymmetric	Twisted hulled barley grain	8
<i>Avena</i> sp	Oat grain	1
<i>Linum usitatissimum</i> L	Flax seed	1
Cereal indeterminate	Indeterminate cereal grain	8
	Total arable	77
Chaff		
Cereal/monocotyledon (>2mm)	Cereal-sized culm node	1
Cereal/monocotyledon (>2mm)	Cereal-sized culm base	8
	Total chaff	9
Wild species		
<i>Brassica/Sinapis</i> spp	Cabbage/mustard seed	1
<i>Carex</i> spp (biconvex)	Sedge nutlet	3
<i>Carex</i> spp (trigonus)	Sedge nutlet	13
<i>Empetrum nigrum</i> L	Crowberry seed	3
<i>Plantago lanceolata</i> L	Ribwort plantain seed	1
Poaceae undiff (small)	Small grass grain	5
Poaceae undiff (medium)	Medium grass grain	3
Poaceae undiff (large)	Large grass grain	1
<i>Polygonum</i> spp	Knotgrass nutlet	3
<i>Rumex acetosella</i> L	Sheep's sorrel nutlet	1
<i>Rumex crispus</i> L	Curled dock nutlet	2
<i>Rumex</i> spp	Dock nutlet	2
<i>Stellaria media</i> (L) Villars	Common chickweed seed	2
<i>Vaccinium myrtillus</i> L	Bilberry seed	2
cf <i>Vicia/Lathyrus</i> spp	Vetch/pea fragment	1
Cereal/monocotyledon (<2mm)	Small grass-sized culm node	3
Cereal/monocotyledon (<2mm)	Small grass-sized culm base	24
Indeterminate rhizome	Indeterminate rhizome	57
Indeterminate seed/fruit	Indeterminate seed/fruit	42
	Wild total	169
	Total Quantifiable Components (QC)	255
	Average QC/litre	2.7

TABLE 8
Zooarchaeological remains

<i>Context Number</i>	<i>Zooarchaeological remains</i>
C26	Calcined incisor tooth fragment (sheep or possibly human)
C53	Calcined limpet (<i>Patella</i> spp) fragment
C54	Charred herring family (<i>Clupeidea</i> undiff) caudal vertebra fragment
C57	Calcined large fish bone fragment
C60	Calcined bird bone fragment
C67	Calcined cattle-sized lumbar vertebra fragment
	Unburnt herring family (<i>Clupeidea</i> undiff) abdominal vertebra fragment
	Calcined sheep/goat fragments:
	– sesamoid × 2
	– phalanx 1 × 4
	– phalanx 2 × 2
	– metacarpal × 3
	– carpal 4 × 2
	– ischium × 2
	– jaw × 3
	– metapodial × 1
	– metatarsal × 1
	– pubis × 1
C83	Calcined cf sheep/goat tibia fragment
C156	Calcined cf sheep/goat femur (Zone 7) fragment
C157	Calcined sheep/goat phalanx (1 or 2) fragment
C166	Calcined cod family (<i>Gadidae</i> undiff) premaxilla fragment



ILLUS 30 An Dunan flooded at a high tide in July 1997 (Photo: Simon Gilmour)

Carbonized plant material

Mike Church

The macrofossil concentration for the site (mean Quantifiable Component/litre) was generally very low, as were the average number and weight of the charcoal fragments (charcoal fragment and weight/litre). The total carbonized plant macrofossil assemblage ($n=255$) was dominated by wild components (66%), with some grain (30%) and very little chaff (4%). A relatively wide range of charcoal genera was recovered, with 53% of the fragments deciduous roundwood, 5% deciduous timber, 19% coniferous timber and 23% indeterminate (Table 9, illus 28 and 29). The largest proportion of the deciduous

roundwood consisted of heather that may have been incorporated into the ash mound with the well-humified peat, or as a fuel in its own right. Fifty heather fragments were analysed and the ring counts are presented in illus 28. The age profile indicates either limited heathland management, or the preferential gathering of younger heather plants, similar to the pattern observed at Gob Eirer (Church 2011). Some birch, hazel and Pomoideae undifferentiated roundwood was also recovered, along with a little alder, *Prunus* sp, and a single fragment of Buckthorn (see below). The small amount of deciduous timber included birch, hazel and oak, whilst the coniferous timber was a mix of pine and spruce. All of the deciduous species would have been available locally at the time,

judging by the pollen spectrum produced from Loch Bharabhat (Lomax & Edwards 2000) and Loch Ruadh Guinnerso (Flitcroft 1997) a few kilometres from the site. The exotic conifers, and perhaps some of the pine, are likely to have been collected as driftwood (Dickson 1992).

The identifiable cereals were dominated by barley, with a single grain of oat and a flax

seed in two samples. The oat was likely to be a weed of the barley crop incorporated into the central ash mound, but the flax is interesting as it represents the earliest identification of flax within a well dated and sealed context in the Western Isles (see below). Eighty-eight per cent of the identifiable cereal was hulled barley. No rachis internodes were preserved and the ratio

TABLE 9

Charcoal remains with the charcoal fragment counts indicated by xF and the mass of the fragments in brackets

<i>Volume for 24 charcoal samples (litres)</i>		611
<i>Deciduous roundwood</i>	<i>Common name</i>	
<i>Alnus</i> sp roundwood	Alder roundwood	2F(0.09)
Bark roundwood	Bark roundwood	1F(0.03)
<i>Betula</i> sp roundwood	Birch roundwood	10F(0.36)
<i>Calluna vulgaris</i> (L) roundwood	Heather roundwood	26F(1.29)
<i>Corylus</i> sp roundwood	Hazel roundwood	8F(0.54)
Pomoideae undiff roundwood	Apple sub-family roundwood	5F(0.25)
<i>Prunus</i> sp roundwood	Cherry family roundwood	2F(0.03)
<i>Rhamnus catharticus</i> L	Buckthorn roundwood	1F(0.1)
Deciduous timber		
<i>Betula</i> sp	Birch timber fragment	1F(0.03)
<i>Corylus</i> sp	Hazel timber fragment	3F(0.11)
<i>Quercus</i> sp	Oak timber fragment	1F(0.01)
Coniferous timber		
<i>Picea</i> sp	Spruce timber fragment	9F(0.78)
<i>Pinus</i> sp	Pine timber fragment	11F(0.44)
Indeterminate		
Indet roundwood/rootwood	Indeterminate rootwood/roundwood	20F(0.64)
Indet	Indeterminate charcoal fragment	4F(0.1)
Total identified		101F(4.74)

of symmetric:asymmetric hulled barley grain was 1:1.3, suggesting the presence of both two- and six-row barley. However, this ratio is based on only 14 grains so caution must be exercised. The only chaff present was of a single large culm node and eight culm bases of cereal-sized grasses.

The wild components were dominated by the smaller culm nodes and bases and rhizomes, a function of their durability and the burning of well-humified peat. The low concentration of wild seeds included cabbage/mustard, sedge, Ribwort plantain, grass, knotgrass, Curled dock, Corn spurrey, Chickweed and Sheep's sorrel. These species cover a range of possible habitats including machair, arable, disturbed ground, rough pasture and moorland. A few seeds of crowberry and bilberry were also recovered. These may represent the incorporation of berried plants into the ash as a deliberate act or as part of the fuel with the other plant material being accidentally deposited into the ash.

Two of the samples contained single fragments of particularly noteworthy plants. Sample 110 (context 152 – an ash spread associated with the central ash mound) contained a fragment of Buckthorn roundwood of approximately eight years growth. This plant is not native to Atlantic Scotland and is found growing in limestone rich areas in the British Isles. Mis-identification is unlikely as the transverse profile of this species is very distinctive and a positive second opinion was given by Dr Mike Cressey of CFA Archaeology. A single uncarbonized wood fragment of Buckthorn was also discovered in Iron Age waterlogged deposits at Dun Vulcan (Taylor 1999), and it seems likely that this species was imbued with special meaning at both sites. Sample 47 (context 067 – a bone-rich layer within the ash mound) also contained a single flax seed and two radiocarbon samples of Middle Iron Age date. It seems likely that both represent some form of structured deposition of plants embodying special meaning because of their novelty and rarity.

DISCUSSION

A SPECIAL PLACE IN THE SALTINGS?

An Dunan occupies a significant and liminal position in the landscape. It is situated at the head of the salt marsh north of Uig Sands on the Triàgh nan Srùban and the islet sits in a liminal zone where the division between land and sea is blurred. Studies of sea level changes in the Hebrides undertaken at Northton, Harris (Jordan et al 2010), have revealed little change in the sea level during the late Holocene. This, combined with excavation and coring into the surrounding marsh at An Dunan, suggests that the surrounding landscape during the Iron Age would have been much the same as it is today, with flooding of the salt marsh which cuts off the islet from the mainland only occurring at very high tides during the spring and autumn equinoxes or after significant storm surges (illus 30). The presence of a causeway suggests that access to the site was needed during these flooding events, perhaps hinting at the times it may have been in use. However, it is by no means clear who the people were that were utilizing An Dunan, where their dwellings were, or how far they may have come to use it.

The excavations at An Dunan have revealed an unusual site which has no known parallels in terms of its structural arrangement. Radiocarbon dates place the main period of use firmly in the Middle Iron Age. It is a new site type for the period but is contemporary with the main period of broch or complex Atlantic roundhouse occupation and with other Iron Age sites in the area, such as the transhumance landscape at Guinnerso to the north-west on the Uig peninsula. While the dating is clear, the function of the site is by no means obvious. The finds assemblage is not suggestive of domesticity; the ceramics, while standard Hebridean Iron Age domestic wares, are not sufficient evidence in and of themselves to identify domestic activity. Neither does the structural configuration of the site sit

happily as a domestic dwelling, because the layout in plan and the nature of the walls do not match contemporary Atlantic roundhouses and wheelhouses, and the wide west-facing entrance in the initial phases has no evidence for any door architecture. The lack of a central hearth is also significant, with the evidence suggesting that the central ash mound was comprised of imported materials already burnt elsewhere. An Dunan has little to indicate an industrial function for the site, the use of scrapers and tools associated with hide processing are few in number, expediently produced and appear to have been used only a limited number of times. The soil micromorphology of the internal occupation layers of the Iron Age structure has indicated that there was no evidence of flooding or wind-blow events. This suggests that the structure was roofed when in use, but there was unfortunately no evidence of the nature of the roof architecture within the top of the walls or any evidence of collapsed corbelling. This would indicate that the roof was made of timber and turf/thatch that was deliberately taken away at the end of occupation of the site or collapsed and rotted away.

The nature of the site is more readily explained by ritual practice; in this case it could have a variety of purposes, ranging from a focal point of religious or spiritual symbolism, a gathering place (perhaps of seasonal significance, possibly for feasting) to a site involved in social events or funerary practices. Alternatively, it may be a site with a specialist function of some description that is not obviously revealed by the architecture, ecofacts or artefacts.

One of the features of the site that marks it out as unique is the uncharacteristically large ash deposit, a mound that could be described as monumental in terms of other known ash deposits, especially those related to domestic hearths. During excavation, this feature was interpreted as a hearth, however soil micromorphology and mineral magnetic analysis revealed that it was instead an area where ash was deposited after burning, and not an area used for burning itself.

The monumental nature of the enigmatic ash deposit with its monolithic markers and formal approach steps are not paralleled at any known site in British Iron Age archaeology.

During Phase 1, the islet appears to have been accessed via the causeway to the north; once on the islet, movement was directed by the topography of the knoll around the eastern and southern sides of the building, with access to the structure at the south-west side, facing the sea. Once inside the structure, people could move either clockwise to the northern part of the building where the formal step feature would give the visitor access to the ash mound set within the orthostats, or to the south, where a series of niches were constructed into the wall. The shale bracelet was found just to the west of the steps to the central ash mound, in a deposit accumulating towards the end of the Iron Age use of the structure in Phase 4, and tight against the inner face of the northern wall, between two of the largest orthostats in the construction of this outer wall. The location was a place that the visitor would have had to pass, and perhaps pause, immediately before accessing the ash mound up the steps. Other areas of the structure, including the large niches to the east and south of the ash mound, are not quite as easily accessible, requiring the visitor to negotiate a narrow gap between an orthostat marking the corner of the ash mound and the outer wall itself, as well as the spreads of ash flowing from the mound. The eastern niches were obstructed by walling in Phase 3 and so were certainly not in use from this point. By Phase 4, the southern niches were also blocked and access to the central ash mound via the steps was no longer possible, due to the placement of walling in the north of the structure. In Phase 4, the access to the structure also seems to change from the south-west seaward side to the east, the interior of the structure is much more limited in size, and the shale bracelet was carefully placed between two of the most significant orthostats in the north wall.

Identifying a specific ritual function for the Iron Age use of the site is challenging. Several

aspects of the finds assemblage may be used to argue that the site was a ritual monument connected in some way with remembering the dead. The shale armlet, carefully placed against the inner face of the north wall of the structure, in a way characteristic of structured or votive deposition, supports this hypothesis in two ways. Firstly, these rare armlets have often been found in burial contexts; and secondly, the act of deposition of an item of high status personal adornment such as this, could be connected with the death of the individual who owned it, or someone close to them. Similarly, the presence of the amber bead links the site to high status individuals. In addition, the presence of crushed quartz, often scattered over burials and monuments in prehistory, could indicate the connection of the site with death and memorial. However, only a single, possible human tooth fragment was identified from the deposits in the ash mound, which suggests the feature was not derived from funerary activity. Also, other intact shale armlet depositions appear to be focused on liminal sites with no clear funerary association (see Hunter above).

The ash mound raises other questions, the soil micromorphology and mineral magnetic signatures revealed that the ash deposits were not burned *in situ* but rather were deposited there after burning had taken place elsewhere. Deposition of ash from a burning event into a liminal, monumental ash mound would certainly suggest a symbolic act, but the purpose is unclear. This usage of the site does, however, shed light on the enigma of the potential roof or canopy suggested by the post-holes. If the mound was not used for burning, but for deposition, then the presence of a roof would not obstruct smoke, nor become a potential fire-hazard, and would protect the ash from the elements. The potential symbolism of the ash is important too. It could be argued that the ash was brought to the site to be placed in the building and then the pots used to carry the ash were deliberately smashed, incorporated into the fabric of the site and trampled into the floor levels, which accounts for the broken,

abraded and fragmented character of the pottery assemblage. There is evidence to suggest that across Atlantic Scotland, ash from domestic hearths was added to the soil, along with other midden material, to improve its fertility from the Neolithic to the post-medieval period (Guttmann et al 2004; Guttmann et al 2008). It is tempting to suggest that the offering of burnt material and ash at An Dunan, perhaps during the spring high tide, was a ritual to try and ensure a good harvest, or perhaps an offering at the autumnal equinox as thanks for a successful year. The creation of the ash mound inside the building, akin to a midden, might echo these wider practices of ash curation found frequently at domestic Iron Age sites, for example at Dun Vulcan (Parker-Pearson & Sharples 1999). This may sound like a waste of a valuable resource, but very large volumes of ash would be produced from a domestic hearth continuously burning peat (Church et al 2007) and so the ash could be spared and used in ritual purposes, with little impact on the soil amendment capabilities of the inhabitants of a domestic settlement. Palaeoenvironmental evidence from the site supports a theme of fertility for the site; Buckthorn is a non-native species in the Western Isles and was discovered within the central ash mound. This species is known to have medicinal properties and its rarity may have led to it being imbued with special symbolism, perhaps associated with fertility, leading to its incorporation in the ash mound. The same may be true of the flax seed, also an unusual species, discovered in the central ash mound. Finally, the assemblage of animal bone and broken ceramics could indicate that the material brought to the islet was the remains of feasting. The fabric of the shale armlet and the presence of the amber bead suggest trade or exchange links with peoples from farther afield; it is possible that the site was a node in the landscape where different social groups met at particular times of year to forge social relations.

The closest geographic parallel to An Dunan in terms of the deposition of large amounts of peat ash appears to be Dunasbroc, an enclosed

promontory stack on the north-west coast of Lewis, with two distinct phases of use in the Neolithic and Iron Age (McHardy et al 2009). Dunasbroc is interpreted as a ritual site with its Iron Age use possibly reflecting its Neolithic function; however, like An Dunan, it raises more questions than it answers. Dunasbroc occupies a similarly liminal position in the landscape between land and sea. The site has broken pottery and animal bone assemblages from both the Neolithic and the Iron Age phases and the excavators highlighted two prestige objects (a broken, leaf or lozenge-shaped arrowhead of imported flint and a large oval stone with one side smoothly polished), both of which belong to the Neolithic assemblage (McHardy et al 2009: 100). Relative to the very small area sampled by excavation, Dunasbroc also appears to have a large amount of burnt material, generally peat ash. Where Dunasbroc and An Dunan differ, however, is that the soil micromorphology tests undertaken at Dunasbroc prove conclusively that burning there was *in situ*. Dunasbroc is interpreted as a site used for the burning of votive offerings (McHardy et al 2009: 100) and the evidence from the excavations at An Dunan suggest that the site was used for the deposition of burnt material and perhaps high status votive offerings. A further possible parallel that has only recently been excavated is Dún Mhurchaidh, a promontory enclosure at Swordle Bay, Ardnamurchan (Cobb et al 2011). In one of the test pits, associated with burning layers, a post-hole contained burnt bones, a fragment of shale bangle, a small opaque bead and a number of stone tools. The extent of the structure that the post-hole may have belonged to is not yet clear, but the package of artefacts discovered at the site is similar to that at An Dunan. What is emerging from these recent excavations is the ritual or symbolic use of liminal coastal sites, which may have its origin in the Neolithic period, with repeated, or at least similar, use of the sites during the Iron Age. The purpose and symbolism of these events is uncertain, as is the possibility that the Iron Age

activity consciously repeated ritual procedures from the Neolithic.

With regard to the structural nature of An Dunan, the closest parallel may be the 'more or less rectangular' Iron Age structure built on top of the Neolithic chambered tomb at Unival, North Uist (Scott 1948). The walls were considered low and flimsy, and the lack of material culture and identifiable animal remains led Scott to consider it the product of a 'low level of culture', possibly a shieling (*ibid*: 7). However, it did produce some applied decorated pottery (*ibid*: fig 3), and the first of two rooms had a recess in the southern wall, a floor of compacted earth and no paving, and a hearth described as a 'pile of ochreous peat, some 2 feet in diameter and containing indeterminate bone fragments, set upon boulders and without a kerb' (*ibid*: 3). The second room, joined to the first by a passage, and potentially including a corbelled roof, had a raised paved 'dais' to the south and another 'pile of ochreous peat-ash some 3 feet 6 inches in diameter and 5 to 6 inches thick at the centre, set upon cairn boulders and having no kerb' (*ibid*). Scott interpreted this room as a corn-drying kiln, due to the lack of any domestic debris and his assertion that the hearth was not used for cooking; although he acknowledges that the location of the site, 250 feet up a hill, suggested that grain-drying must have been secondary to cattle farming (*ibid*: 7). Some of these details are similar to the evidence from An Dunan, and the location of the site on a Neolithic tomb might also suggest a less prosaic interpretation for Unival, perhaps comparable in some ways to the ritual use of An Dunan and the other sites noted above.

The re-use of An Dunan in the medieval period appears to be unrelated to the earlier ritual function, with the site remodelled as a small oval building with a rough, gritty floor surface. Indeed, Armit's excavations at Druim nan Dearcag (1997b) revealed a structure identified as a domestic dwelling which closely echoes the plan and construction techniques of the later oval structure at An Dunan. The later

use of the site has very few artefacts and ecofacts that could identify it as a domestic dwelling. It is likely that this medieval structure is either a small shelter or a storage building, leaving very little archaeological information representing its function.

THE IRON AGE OF THE WESTERN ISLES

Reviews of the Atlantic Iron Age, including the Western Isles (Armit 1996; Henderson 2007), emphasise the role of domestic remains in constructing our understanding of the way people lived their lives and used the landscape around them. Atlantic roundhouses (or brochs, duns, crannogs and wheelhouses) dominate the archaeological record for the period, and analyses of their material remains tend to focus on the development of typologies or chronologies. Even then, across the entire Western Isles the number of sites that can be definitively placed into the Iron Age and have produced detailed information from excavation is surprisingly few.

The evidence from sites such as Dun Bharabhat (NB03NE 4; Harding & Dixon 2000) and Cnip (NB03NE 17; Armit 2006), on the nearby Bhaltois peninsula, suggest that large monumental buildings were the most recognisable domestic settlement type for the period, but they also offer plenty of proxy evidence for aspects of life that were occurring off-site (Cerón-Carrasco et al 2005). Other Iron Age sites in Atlantic Scotland have similarities to An Dunan in that they are also unlikely to represent the main settlement focus of activity (Gilmour 2002), and although none appears to have the material remains that could be as securely linked to a ritual function, it is likely that these too represent other aspects of life beyond the main Iron Age domestic settlement foci, such as shielings or functionally specific sites.

The excavations at An Dunan, and the Iron Age transhumance remains at Guinnerso to the north on the Uig peninsula, provide further tangible evidence of this wider use of the landscape around Iron Age domestic sites.

The nearest potential large domestic Atlantic roundhouse to An Dunan is Dun Borranish (NB03SE 1), located in Uig Bay itself, less than 1.5km away to the south-south-east; unfortunately this site has not been excavated, but has produced potentially Iron Age pottery from eroding wall-fills. Two other possible islet sites are located just up-hill to the west of An Dunan in Loch Barabhat (NB03SW 3 and 4), but neither has produced definitive dating evidence, nor clear evidence for structures.

The excavations at An Dunan bring another dimension to our knowledge of Iron Age life. As a non-domestic site, and indeed, a non-monumental site relative to the scale of effort represented by Atlantic roundhouses and crannogs, An Dunan allows us to begin to fill in the human use of the wider landscape and fleshes out the broader activities of people in the Iron Age in the Western Isles. It was an important location, with significant structural features, artefacts and ecofacts, suggesting long-distance contact and exchange, and the presence of only a few elements of the typical domestic package noted at other Iron Age sites (cf Harding & Dixon 2000; Armit 2006; Parker Pearson & Sharples 1999; Gilmour & Cook 1998).

CONCLUSIONS

The enigmatic structural remains at An Dunan, combined with the limited evidence offered by the small finds assemblage, make this a difficult site to interpret. It seems clear that An Dunan is not a domestic or industrial site; beyond that, however, it is difficult to be certain of the exact function. The evidence, combined with the landscape situation, points to An Dunan having been used as a liminal ritual site where votive deposition was occurring, possibly at significant times of the year, and potentially linked with feasting or celebration. The specific ritual significance of the site is unclear; therefore the authors present here three alternative, and necessarily speculative, uses for the site. The

first interpretation sees An Dunan as a monument to the dead. Its liminal location combined with limited access, its monumental ash mound with formal approach steps, the deposition of ash which may be related to cremation practices, the deposition of high status personal adornments and the presence of crushed quartz can all be cited to demonstrate that An Dunan is a site of some significance for mortuary rites or memorialisation of the dead. However, the lack of human remains at the site raises doubts over this interpretation.

In the second scenario, An Dunan is a ritual 'altar of petition' for fertility or a place of thanksgiving for recent harvest. Iron Age peoples are known to have associated water-logged places with deposition and An Dunan, particularly during a very high tide or after heavy storms, is an isolated knoll right at the head of the saltings. The water channels in the salt marsh blur the distinction between land and sea, making the nature of the place shifting, temporal and potentially very significant for the local society.

Finally, the third model views An Dunan as a significant social node in the wider Iron Age landscape. Its liminality could represent borders between social networks in the region, with An Dunan featuring as a meeting place for trade/exchange or unions of peoples at special times of the year, with social bonds between individuals or groups sealed by the deposition of ash from related feasts and/or significant objects.

The absence of comparanda for An Dunan make interpretation of the site difficult. It is unique not only in the region but in the Iron Age of Britain more generally. An Dunan therefore remains identified simply as a significant place in the Iron Age landscape of Uig, which was probably the focus of ritual activity for a period in the Middle Iron Age. The subsequent re-use of the site in the medieval period appears unrelated to the site's original purpose and probably represents an expedient use of the structure.

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NOTES

- 1 SF225.
- 2 SF256 and 272–4.
- 3 SF021, 264, 265, 267, 268, 280 and 284.
- 4 SF163, 164, 166, 167, 246, 249, 250 and 251.
- 5 SF022, 027 and 054.
- 6 SF015, 020 and 030.
- 7 SF051, 052, 065, 074, 075, 076, 082, 097, 122, 131 and 149–150.
- 8 SF013 and 041.
- 9 SF018.
- 10 SF046, 047, 048, 049 and 050.

APPENDIX 1

ILLUSTRATED SMALL FINDS CATALOGUE

Pottery

All of the illustrated sherds have been identified by CAT number in the following descriptions, with the corresponding Small Find (SF) number next to the illustrated sherds, consistent with the illustration protocol of the other publications stemming from the Uig Landscape Project (Nesbitt 2011; 2013) produced to date.

CAT194 (illus 16, also includes CAT151, 172, 193, 196, 199: SF62, 73, 80, 144 from C140, 138, 133: Phase 4)

Rim and body sherds from a bowl with upright rounded rim and globular body, diameter 23cm. Decorated with a row of elongated impressions below the rim.

CAT291 (illus 17, SF240 – C166: Phase 1)

Short everted rim, globular body. Same vessel as CAT211 (C159).

CAT210 (illus 17, SF133 – C147: Phase 2)

Rim and body sherds from a vessel with incurving rim, rounded and tapering. Same vessel as CAT334 (C181).

CAT273 (illus 17, SF207 – C159: Phase 1)

Tapering S-shaped rim.

CAT39 (illus 17, C045: Phase 4)

Everted rim (almost beaded) with globular body.

CAT299 (illus 17, SF253 – C169: Phases 1–4)

Rim and body sherds from a vessel with a rounded upright rim.

CAT13 (illus 17, SF004 – C005: Topsoil)

Flat topped rim with external lip.

CAT309 (illus 17, comprises CAT304, CAT313: SF250/258 – C172/3: Phase 2)

Rim sherds from a jar with closed mouth and slightly out-turned rim.

CAT228 (illus 17, SF194 – C156: Phase 1)

Rounded upright rim.

CAT200 (illus 18, SF081 – C140: Phase 4)

Rim sherd from a vessel with a very short upright rim, decorated with a row of shallow oval impressions in the inflection between the rim and the globular body. Same vessel as CAT191 (C138) and CAT197 (C140).

CAT158 (illus 18, SF076 – C136: Phase 3)

Flattened rim, slightly out-turned. Decorated with circular impressions below rim and dots along top of rim. Same vessel as CAT120 (C111).

CAT221 (illus 18, C156: Phase 1)

Incurving, tapering rim, decorated with an incised V, which could be part of a zigzag.

CAT230 (illus 18, SF201 – C156: Phase 1)

Decorated with incised cross-in-a-box motif immediately below the rim. Rounded rim, upright with slightly sinuous profile.

CAT61 (illus 18, C065: Phase 1)

Rim and body sherds from a vessel with a flat topped rim expanded to the exterior to form a

slightly everted rim, globular body. Decorated with wide incised horizontal lines and roughly diamond-shaped impressions in a row.

CAT275 (illus 19, SF216 – C159: Phase 1)

Body sherd decorated with an applied circular boss with concave centre.

CAT121 (illus 19, SF050 – C111: Phase 4)

Body sherd decorated with an incised zigzag and an applied circular boss which is decorated with slashed lines.

CAT327 (illus 19, SF280 – C177: Phase 1)

Body sherd decorated with a thick wavy cordon. Same vessel as CAT147 (C132).

CAT113 (illus 19, SF276 – C087: Topsoil)

Body sherd decorated with an abraded curved cordon.

CAT257 (illus 19, SF181 – C159: Phase 1)

Body sherds decorated with applied circular boss with concave centre, an applied lump of clay next to the boss may be a further part of the motif.

CAT47 (illus 19, SF020 – C047: Phases 1–4)

Body sherd decorated with a very thick heavy cordon decorated with long diagonal slashes.

CAT136 (illus 20, SF052 – C128: Phase 3)

Body sherds decorated with an incised zigzag and applied slashed roundels with cordons.

CAT115 (illus 20, C111: Phase 4)

Body sherd decorated with impressed dots and incised lines.

CAT250 (illus 20, SF175 – C159: Phase 1)

Body sherd decorated with incised lines and a small circular impression.

CAT145 (illus 20, SF056 – C132: Phase 3)

Body sherd decorated with a series of shallow circular impressions in two rows. Same vessel

as CAT69 (C076), CAT132 (C127), CAT156 (C136) and CAT206 (C142).

CAT229 (illus 20, SF195 – C156: Phase 1)

Rim and body sherds decorated with incised cross-in-a-box motif, upright sub-rounded rim. Same vessel as CAT230/231 (C156), CAT266/276/277 (C159), CAT287 (C166) and CAT312 (C173).

CAT308 (illus 20, SF249 – C172: Phase 2)

Body sherd decorated with incised lines in a geometric pattern.

CAT244 (illus 20, SF148 – C158: Phase 2)

Body sherds decorated with impressed thumbnail in a stacked row, with a second row at right angles.

CAT76 (illus 20, SF038 – C087: Topsoil)

Shoulder sherd from an everted rimmed vessel, decorated with a shallow groove along the inflection between rim and body and vertical finger grooves in a row below.

CAT32 (illus 20, SF025 – C044: Phase 4)

Body sherds decorated with small ring impressions. Rough wiping on the exterior gives a decorative effect.

CAT271 (illus 21, SF202 – C159: Phase 1)

Base and body sherds from a footed base, diameter 10cm.

CAT186 (illus 21, SF106 – C138: Phase 3)

Omphalos base sherd.

CAT298 (illus 21, SF253 – C169: Phases 1–4)

Base and wall sherd, plain. Base plate formed with a tongue for attaching wall slab.

CAT145 (illus 21, SF015 – C047: Phases 1–4)

Base with domed interior.

CAT177 (illus 21, SF068 – C138: Phase 3)

Footed base, diameter 5cm.

CAT228 (illus 21, SF194 – C156: Phase 1)

Flat base, diameter 17cm.

Lithics

CAT163 (illus 22, C170: Phase 4)

A piercer, based on a small fragment of a thin plate of vein quartz (32mm×21mm×8mm). At one end, a robust, almost right-angled piercer tip was formed by retouching two merging edges. Magnification clearly shows that the tip is abraded (rounded) by use.

CAT2 (illus 22, SF054 – C043: Phase 5)

A small elongated end-scraper (24mm×18mm×8mm) on an indeterminate piece. At one end, it has a highly regular, convex, steep scraper-edge. It was manufactured in ultra-fine-grained quartz with a 'greasy' lustre. The raw material, as well as the careful execution of this piece, suggests that CAT2 may be a residual Early Bronze Age piece.

CAT33 (illus 22, SF269 – C087: Topsoil)

A well-defined, 'standard' hard-percussion flake, which may also be residual. A typical hard-hammer flake with a well-defined bulb of percussion. Possibly residual Early Bronze Age.

Shale bracelet

SF018 (illus 23, C044: Phase 4)

External D 77.5mm, internal D 53.5–54.5mm, B 12mm, H 16mm, 26.4g

An intact oil shale, asymmetric penannular armlet of well-rounded D-section, flattened on one face and tapering to the terminals, 21mm apart, which are rounded-off. Hand-carved, with circumferential abrasion scars on the inside surfaces and lighter ones on the exterior; it is slightly surprising the latter were not polished away. All the edges are rounded from use. The

armlet is somewhat asymmetrical: the thickest part is not exactly opposite the gap, and one face is flat while the other is rounded. While variations are inevitable in any handcraft process, such marked asymmetry is quite unusual. At one terminal, a tiny copper alloy speck may be a tool fragment which has become embedded during manufacture.

Coarse stone

SF023 (illus 24, C044: Phase 4)

Grinder/pounder. Flattened ovoid cobble of quartzofeldspathic gneiss, faceted abrasion at one blunt rounded end (46mm×25mm). The opposite wide rounded end has a small circular pitted facet from use as a pounder (D 27mm). L 118mm W 70.5mm Th 46mm.

SF283 (illus 24, C188: Phases 1–4)

Grinder/pounder. Flattened ovoid microgranite pebble with bipartite faceted abrasion at one rounded end (26mm×11mm) and a further small oval grinding facet at the opposite end (15.5mm×8mm). Irregular pitting from use as a pounder is present on both ends. L 80mm W 61mm Th 28.5mm.

SF007 (illus 24, C003: Topsoil)

Grinder/Pounder. Large flattened ovoid quartzite-rich cobble, both ends show extensive working in the form of well-developed abraded and pitted facets. One end is rounded with an oval pitted area of wear (86mm×54mm). The opposite narrower rounded end has a bipartite, flattened oval abrasion facet (76mm×43mm) from use as a grinder. L 133mm W 100.5mm Th 61mm.

SF011 (illus 25, C032: Phase 4)

Pot lid. Mica-schist flat circular disc, edges roughly bifacially flaked, both faces irregular with no obvious attempt to smooth or finish. D 76mm, Th 12.5–15mm.

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